Digitized by the Internet Archive
in 2012 with funding from
CARLI: Consortium of Academic and Research Libraries in Illinois

http://archive.org/details/annualannounceme79unse

The University of Chicago
FOUNDED BY JOHN D. ROCKEFELLER

CIRCULAR OF INFORMATION

Vol. XXI MAY 1921 No. 6

RUSH MEDICAL COLLEGE

SEVENTY-NINTH ANNUAL ANNOUNCEMENT

THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS

Published by the University of Chicago six times a year: September, January 3 and 20, February, April, May. Entered as second-class matter September 18, 1914, at the Post-office at Chicago, Ill., under the Act of August 24, 1912. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized June 6, 1918.

TABLE OF CONTENTS

Calendar of Rush Medical College, 1921–22 4
Calendar of the University for the Year 1921–22 5
Rush Medical College, in Affiliation with the University of Chicago
History 7
Government 7
Affiliation 8
Location. 8
Location of the University of Chicago 8
The Board of Trustees of Rush Medical College 9
The Faculty of Rush Medical College 9
Fellows for 1921–22 19
Extra-mural Instructors 19
Officers of Administration. 20
The Administrative Board of Medical Affairs 20
Introductory Statement 22
General Regulations 23
The Curriculum 25
Requirements for Admission to the Medical College 26
A. High-School Work Required for Admission to the Junior College (Freshman Class), University of Chicago 26
B. College Work Required for Admission to the Medical Courses . . 28
C. Requirements for the Combined Course for the Degrees of S.B. and M.D. 29
Total Requirements for the Baccalaureate Degrees. 30
Requirements in the Junior College 30
Requirements for a Bachelor's Degree 30
Admission to Advanced Standing in the Medical Courses 31
Requirements for Graduation 31
General Information for Students Entering the Freshman and Sophomore Classes 32
Routine of Entrance 32
Fees for Matriculation, Tuition, Deposits, and Apparatus 33
Rooms, Board, and General Expenses 35
General Information for Students Entering the Junior and Senior Classes at Rush Medical College 36
Physician's Fee. 37
Young Men's Christian Association 38
The Quarter System 38
The Medical Curriculum as Related to the Quarter System . . . 39
The Summer Quarter 39
Definition of Major and Minor 39
Graduate Courses in Medicine for Physicians and Advanced Students . . 40
The Work of the Medical Course for the Freshman and Sophomore Years 40
Arrangement of Courses for Six Quarters 41
The Work of the Clinical Years 42
Fifth or Interne Year 43
I. Department of Anatomy 45
Department of Zoölogy. 47

II. Department of Physiology 55
IIA. Department of Physiological Chemistry and Pharmacology . . . 57
III. Department of Chemistry, Materia Medica, and Toxicology . . . 61
V. Department of Therapeutics and Preventive Medicine. 68
VI. Department of Pathology 69
VIA. Department of Hygiene and Bacteriology 71
VII. Department of Medicine 74
VIII. Department of Surgery. 80
IX. Department of Obstetrics and Gynecology 83
X. Department of Laryngology and Otology 85
XI. Department of Ophthalmology 86
XII. Department of Skin and Venereal Diseases 88
XIII. General Lectures and Optional Courses 89
Laboratories, Equipment, and Libraries at the University of Chicago:
The Hull Biological Laboratories 90
The Libraries 92
Buildings, Equipment, and Hospital Facilities at Rush Medical College . 93
Fellowships, Hospital Internes, and Prizes (at Rush Medical College) . . 98
Scholarships and Other Aid (at the University of Chicago) 100
Fellowships 106
Medical Societies 107
Alumni Association 108
Graduates for the Session of 1920–21. 109
Matriculates for the Session of 1920–21 117
Summary of Attendance for the Year 1920–21 140

CALENDAR OF RUSH MEDICAL COLLEGE

1921

June 20, Monday.—Summer Quarter begins.
July 1, Friday.—The Fiscal Year of the College begins.
July 4, Monday.—Independence Day: a holiday.
July 28, Thursday.—Second Term, Summer Quarter begins.
Sept. 2, 3, Friday, Saturday.—Quarterly Examinations.
Sept. 3, Saturday.—Summer Quarter ends.
Sept. 3–Sept. 30.—Summer Recess.
Oct. 1, Saturday.—Autumn Quarter begins.
Oct. 3, Monday.—All classes meet.
Nov. 10, Thursday.—Second Term, Autumn Quarter begins.
Nov. 24, Thursday.—Thanksgiving Day: a holiday.
Dec. 21, 22, 23, Wednesday, Thursday, Friday.—Quarterly Examinations.
Dec. 23, Friday.—Autumn Quarter ends.
Dec. 24–Jan. 1.—Quarterly Recess.

1922

Jan. 2, Monday.—Winter Quarter begins.
Feb. 13, Monday.—Second Term, Winter Quarter begins.
Feb. 22, Wednesday.—Washington's Birthday: a holiday.
March 23, 24, 25, Thursday, Friday, Saturday.—Quarterly Examinations.
March 25, Saturday.—Winter Quarter ends.
March 25–April 2.—Quarterly Recess.
April 3, Monday.—Spring Quarter begins.
May 11, Thursday.—Second Term, Spring Quarter begins.
June 12, Monday.—Special Clinics for the Alumni Association.
June 13, Tuesday.—Special Clinics.
June 14, Wednesday.—3:00 P.M., Graduating Exercises; 5:00 P.M., Annual Business Meeting of the Alumni Association; 6:00 P.M., Annual Reception and Dinner of the Faculty and Alumni.
June 15, 16, 17, Thursday, Friday, Saturday.—Quarterly Examinations.
June 17, Saturday.—Spring Quarter ends.

UNIVERSITY CALENDAR FOR THE YEAR 1921–22

1921

June 11	Saturday	Alumni Day
June 12	Sunday	Convocation Sunday
June 13	Monday	College Day
June 14	Tuesday	Summer Convocation
June 15	Wednesday	Examinations for the Spring Quarter
June 16	Thursday	
June 17	Friday	
June 17	Friday	Spring Quarter ends
June 18	Saturday	Registration for the Summer Quarter
June 20	*Monday*	*Summer Quarter begins*
June 20–25		Examinations of the College Entrance Examination Board
July 4	Monday	Independence Day: a holiday
July 16	Saturday	Special Examinations for removal of deficiencies (work reported conditioned or incomplete) incurred during the last quarter of residence
July 26	Tuesday	Examinations for the First Term of the Summer Quarter
July 27	Wednesday	
July 27	Wednesday	First Term of the Summer Quarter ends
July 28	Thursday	Second Term of the Summer Quarter begins
Aug. 28	Sunday	Convocation Sunday
Sept. 1	Thursday	Examinations for the Second Term of the Summer Quarter
Sept. 2	Friday	
Sept. 2	Friday	Autumn Convocation Second Term of the Summer Quarter ends
Sept. 12–16		Examinations for Admission
Sept. 29	Thursday	Registration for the Autumn Quarter
Sept. 30	Friday	
Sept. 30	Friday	Special Examination for all students returning for the Autumn Quarter, who incurred deficiencies (work reported conditioned or incomplete) in the last quarter of residence
Oct. 1	*Saturday*	*Autumn Quarter begins*
Oct. 1	Saturday	Registration for the Autumn Quarter
Oct. 3	Monday	All classes meet
Nov. 24	Thursday	Thanksgiving Day: a holiday
Dec. 18	Sunday	Convocation Sunday
Dec. 20	Tuesday	Winter Convocation
Dec. 21	Wednesday	Examinations for the Autumn Quarter
Dec. 22	Thursday	
Dec. 23	Friday	
Dec. 23	Friday	Autumn Quarter ends

1922

Jan. 2	*Monday*	*Winter Quarter begins*
Jan. 28	Saturday	Special Examinations for removal of deficiencies (work reported conditioned or incomplete) incurred during the last quarter of residence
Feb. 22	Wednesday	Washington's Birthday: a holiday
Mar. 19	Sunday	Convocation Sunday
Mar. 21	Tuesday	Spring Convocation
Mar. 22	Wednesday	Examinations for the Winter Quarter
Mar. 23	Thursday	
Mar. 24	Friday	
Mar. 24	Friday	Winter Quarter ends
Mar. 25—April 2		Quarterly Recess
April 3	*Monday*	*Spring Quarter begins*
April 29	Saturday	Special Examinations for removal of deficiencies (work reported conditioned or incomplete) incurred during the last quarter of residence
May 4	Thursday	Annual Conference with Co-operating Schools
May 5	Friday	
May 30	Tuesday	Memorial Day: a holiday
June 10	Saturday	Alumni Day
June 11	Sunday	Convocation Sunday
June 12	Monday	College Day
June 13	Tuesday	Summer Convocation
June 14	Wednesday	Examinations for the Spring Quarter
June 15	Thursday	
June 16	Friday	
June 16	Friday	Spring Quarter ends

RUSH MEDICAL COLLEGE

IN AFFILIATION WITH

THE UNIVERSITY OF CHICAGO

HISTORY

Rush Medical College is one of the oldest institutions of learning in the Northwest, having been chartered by a special act of the legislature of the state of Illinois in February, 1837. It was founded by the late Daniel Brainerd, who was its first president. The first course of lectures was delivered in the second story of a frame building on Clark Street, near Randolph, in 1843. In 1844 a college building was erected at the corner of Dearborn Avenue and Indiana Street (now Grand Avenue), a structure which was remodeled and enlarged in 1855. In 1867 a larger building was erected on the site of the old one. This edifice was destroyed in the great fire of 1871 and for three years the College occupied a temporary amphitheater in the grounds of the Cook County Hospital, then located at Arnold and Eighteenth streets. In 1875 the present Clinical Building was erected, and in 1893 a Laboratory Building, which greatly increased the facilities for practical instruction, was erected on the south side of Harrison Street, opposite the Clinical Building. The facilities for clinical instruction were largely increased in 1903 by the addition of the Senn Building, seven stories in height, adjoining the Clinical Building on the east. In 1887 the College became the medical department of Lake Forest University, retaining, however, its autonomy. This relation was dissolved by mutual consent in April, 1898, and in the same month the present affiliation with the University of Chicago was established. In 1883 the Presbyterian Hospital, adjoining the College, was established, and the building then erected for the hospital was subsequently enlarged by the addition of the Daniel A. Jones Memorial and other additions. In 1908 an affiliation was entered into with the Children's Memorial Hospital similar to that obtaining with the Presbyterian Hospital. This was transferred in 1919 to the University of Chicago. In 1911 a similar affiliation was entered into with the Home for Destitute Crippled Children, and in 1915 with the County Home for Convalescent Children. Rush Medical College is one of the several institutions officially recognized by the Royal Colleges of Physicians and of Surgeons of London, England.

GOVERNMENT

The government of the College is vested in a "perpetual Board of Trustees" distinct from the teaching force of the College, which was constituted by a special act of the General Assembly of Illinois, in February, 1837, and of which the Governor of the state, the Lieutenant-Governor, and the Speaker of the House of Representatives are members ex-officio. This board is responsible to the state for the careful management of the financial and educational interests of the College and for the discipline of its students.

AFFILIATION

By the terms of affiliation with the University of Chicago, the Board of Trustees is composed of members not belonging to the teaching force of the College. This board assumes the financial management and appoints the Faculty, but delegates to the latter the control of the educational work subject to the rules of the University and the approval of the Trustees. The affiliation thus assures the maintenance of a higher order of instruction and a steady advance in modern educational methods. The University offers three Fellowships to graduates of the College, yielding the University fees and entitling the holders to the privileges of its biological laboratories. It provides for granting the degree of Bachelor of Science to students of the College who have had suitable preliminary education and who comply with the University regulations established for that degree. The courses of the first two years of the medical curriculum are offered at the University only.

LOCATION

The college is situated on West Harrison Street, between Hermitage Avenue and Wood Street, and can be reached by any of the trains of the Metropolitan Elevated Railway, the Marshfield Avenue station of which is three blocks east of the College; by the Ogden Avenue and Van Buren Street electric lines, which cross Wood Street two blocks north of the College; or by the Harrison Street electric car line, which runs on West Harrison Street.

The telephone number is West 110.

Address all correspondence to Rush Medical College, Chicago, Illinois.

LOCATION OF THE UNIVERSITY OF CHICAGO

The University is situated on the Midway Plaisance between Cottage Grove and Dorchester avenues, and can be reached by the Cottage Grove Avenue electric cars (from Wabash Avenue), by the South Side Elevated Railway, by the Illinois Central Railroad to South Park Station, or by the Sixty-third Street electric cars from the Englewood railway stations.

Mail and baggage service is provided at the Information Office in the University Press Building.

The telephone number of the University is Midway 800.

THE BOARD OF TRUSTEES OF RUSH MEDICAL COLLEGE

OFFICERS OF THE BOARD

John J. Glessner, President
Ernest A. Hamill, Vice-President
Charles L. Hutchinson, Treasurer
James Spencer Dickerson, Secretary

ELECTED MEMBERS

Jesse A. Baldwin
John J. Glessner
Marshall Field, III
Ernest A. Hamill
Charles L. Hutchinson
Harry Pratt Judson
Andrew MacLeish
John T. Pirie
Frederick H. Rawson
James Simpson
Albert A. Sprague, II
Robert J. Thorne

EX-OFFICIO MEMBERS

His Excellency Len Small, Governor of Illinois
Hon. Fred E. Sterling, Lieutenant-Governor of Illinois
Hon. Gotthard A. Dahlberg, Speaker of the House of Representatives

---

THE FACULTY OF RUSH MEDICAL COLLEGE

REPRESENTING THE UNIVERSITY OF CHICAGO

Harry Pratt Judson, A.M., LL.D., President of the University.

Norman Bridge, A.M., M.D., Professor Emeritus of Medicine, Los Angeles, Cal.

John Clarence Webster, M.D., F.R.C.P. (Edin.), Professor Emeritus of Obstetrics and Gynecology.

Walter Stanley Haines, A.M., M.D., Professor and Head of the Department of Chemistry, Materia Medica, and Toxicology, Rush Medical College.

Arthur Dean Bevan, M.D., *Nicholas Senn* Professor and Head of the Department of Surgery, 122 South Michigan Boulevard.

John Milton Dodson, A.M., M.D., Dean of Students; Professor of Medicine, 25 East Washington Street.

Ludvig Hektoen, M.D., Sc.D., LL.D., Professor and Head of the Department of Pathology, 637 South Wood Street.

Frank Billings, Sc.D. (Harv.), M.D., Dean of the Faculty; Professor and Head of the Department of Medicine; Professor of Medicine in the University of Chicago, 1550 North State Parkway.

Albert Abraham Michelson, Ph.D., Professor and Head of the Department of Physics, University of Chicago.

James Bryan Herrick, A.M., M.D., Professor of Medicine, 122 South Michigan Boulevard.

Marion Talbot, A.M., Professor of Household Administration; Dean of Women, University of Chicago.

Julius Stieglitz, Ph.D., Sc.D., Chairman of the Department of Chemistry; Professor of Chemistry; Director of Analytical Chemistry, University of Chicago.

Edwin Oakes Jordan, Ph.D., Sc.D., Chairman of the Department of Hygiene and Bacteriology; Professor of Bacteriology, University of Chicago.

Robert Russell Bensley, A.B., M.B., Professor of Anatomy, University of Chicago.

Frank Rattray Lillie, Ph.D., Sc.D., Chairman of the Department of Zoölogy; Professor of Embryology, University of Chicago.

Charles Judson Herrick, Ph.D., Professor of Neurology, University of Chicago.

Bertram Welton Sippy, M.D., Professor of Medicine, 122 South Michigan Boulevard.

William Hamlin Wilder, M.D., Comptroller and Professor and Head of the Department of Ophthalmology, 122 South Michigan Boulevard.

Edwin Raymond LeCount, M.D., Professor of Pathology, Rush Medical College.

David Wilson Graham, A.M., M.D., Clinical Professor of Surgery, 15 East Washington Street.

William Thomas Belfield, M.D., Professor of Surgery (Genito-urinary) 32 North State Street.

Thor Rothstein, M.D., Professor of Medicine (Nervous and Mental Diseases), 122 South Michigan Boulevard.

Harry Gideon Wells, M.D., Ph.D., Professor of Pathology, University of Chicago.

Oliver Samuel Ormsby, M.D., Secretary of the Council of Administration and of the Faculty; Professor and Head of the Department of Skin and Venereal Diseases, 25 East Washington Street.

Theodore Tieken, M.D., *Ingals* Professor of Therapeutics, 30 North Michigan Boulevard.

John Edwin Rhodes, A.M., M.D., College Historian; Professor of Laryngology and Otology, 122 South Michigan Boulevard.

Anton Julius Carlson, Ph.D., Professor of Physiology and Chairman of the Department, University of Chicago.

George Elmer Shambaugh, Ph.B., M.D., Professor of Laryngology and Otology, 122 South Michigan Boulevard.

Charles Manning Child, Ph.D., Professor of Zoölogy, University of Chicago.

William Draper Harkins, Ph.D., Professor of Chemistry, University of Chicago.

Horatio Hackett Newman, Ph.D., Dean in the Colleges of Science; Professor of Zoölogy and Embryology, University of Chicago.

Basil Coleman Harvey, A.B., M.B., Professor of Anatomy, University of Chicago.

Preston Kyes, A.M., M.D., Professor of Preventive Medicine, University of Chicago.

George Howitt Weaver, M.D., Professor of Pathology, 637 South Wood Street.

Joseph Leggett Miller, M.D., Professor of Medicine, 122 South Michigan Boulevard.

Samuel Robert Slaymaker, A.B., M.D., Professor of Medicine, 25 East Washington Street.

Joseph Almarin Capps, A.M., M.D., Professor of Medicine, 122 South Michigan Boulevard.

Dean DeWitt Lewis, M.D., Sc.D., Professor of Surgery, 122 South Michigan Boulevard.

Peter Bassoe, M.D., Professor of Medicine (Nervous and Mental Diseases), 30 North Michigan Boulevard.

Rudolph Wieser Holmes, M.D., Associate Professor of Obstetrics and Gynecology, 30 North Michigan Boulevard.

Sydney Kuh, M.D., Associate Professor of Medicine (Nervous and Mental Diseases), 30 North Michigan Boulevard.

Bird McPherson Linnell, A.B., M.D., Associate Professor of Medicine, 25 East Washington Street.

James Cornelius Gill, M.D., Associate Professor of Medicine (Nervous and Mental Diseases), 104 South Michigan Boulevard.

George Washington Hall, A.M., M.D., Associate Professor of Medicine (Nervous and Mental Diseases), 104 South Michigan Boulevard.

Herman Irving Schlesinger, Ph.D., Associate Professor of Chemistry, University of Chicago.

Bernard Fantus, A.M., M.D., Associate Professor of Therapeutics, 719 South Ashland Boulevard.

Edwin Warner Ryerson, M.D., Associate Professor of Surgery (Orthopedic), 122 South Michigan Boulevard.

Wilber E. Post, M.D., Associate Professor of Medicine, 122 South Michigan Boulevard.

Ernest Edward Irons, M.D., Ph.D., Associate Professor of Medicine, 122 South Michigan Boulevard.

George William Bartelmez, Ph.D., Associate Professor of Anatomy, University of Chicago.

Rollin Turner Woodyatt, M.D., Associate Professor of Medicine, 104 South Michigan Boulevard.

Ralph Chrisman Brown, M.D., Associate Professor of Medicine, 122 South Michigan Boulevard.

Ernest Lewis McEwen, S.M., M.D., Associate Professor of Skin and Venereal Diseases, 25 East Washington Street.

Arno Benedict Luckhardt, M.D., Ph.D., Associate Professor of Physiology, University of Chicago.

Fred Conrad Koch, Ph.D., Acting Chairman of the Department and Associate Professor of Physiological Chemistry, University of Chicago.

David Judson Lingle, Ph.D., Associate Professor of Physiology, University of Chicago.

Charles Aubrey Parker, M.D., Associate Professor of Surgery (Orthopedic), 7 West Madison Street.

Noble Sproat Heaney, M.D., Associate Professor and Acting Head of the Department of Obstetrics and Gynecology, 104 South Michigan Boulevard.

Clifford Grosselle Grulee, A.M., M.D., LL.D., Associate Professor of Medicine (Pediatrics), 104 South Michigan Boulevard.

John Bernard Ellis, M.D., Associate Professor of Ophthalmology, 25 East Washington Street.

George Abraham Torrison, A.B., M.D., Assistant Professor of Laryngology and Otology, 30 North Michigan Boulevard.

Ralph Waldo Webster, M.D., Ph.D., Assistant Professor of Medical Jurisprudence; Instructor in Medicine, 25 East Washington Street.

Josephine Estabrook Young, M.D., Assistant Professor of Medicine (Nervous and Mental Diseases), 7 West Madison Street.

Elmer Lawton Kenyon, A.B., M.D., Assistant Professor of Laryngology and Otology, 104 South Michigan Boulevard.

James Murray Washburn, A.B., M.D., Assistant Professor of Medicine, 6 Scott Street.

Ludwig Mannheimer Loeb, M.D., Assistant Professor of Medicine, 30 North Michigan Boulevard.

Alexander Francis Stevenson, M.D., Assistant Professor of Medicine, 104 South Michigan Boulevard.

John Ritter, M.D., Assistant Professor of Medicine, 3124 West Washington Boulevard.

Leon Bloch, M.D., Assistant Professor of Medicine, 25 East Washington Street.

Ellis Kirk Kerr, M.D., Assistant Professor of Medicine, 30 North Michigan Boulevard.

Karl Konrad Koessler, M.D., Ph.D., Assistant Professor of Medicine, 104 South Michigan Boulevard.

Frank Wesley Allin, M.D., Assistant Professor of Medicine (Pediatrics), 4403 Washington Boulevard.

Carey Culbertson, M.D., Assistant Professor of Obstetrics, 30 North Michigan Boulevard.

Carl Braden Davis, S.B., M.D., Assistant Professor of Surgery, 122 South Michigan Boulevard.

Frederick Brown Moorehead, D.D.S., M.D., Assistant Professor of Surgery (Oral and Dental), 122 South Michigan Boulevard.

William George Lee, M.D., Assistant Professor of Obstetrics and Gynecology, University Club.

Walter Wile Hamburger, M.D., Assistant Professor of Medicine, 104 South Michigan Boulevard.

David Fiske, M.D., Assistant Professor of Laryngology and Otology, 25 East Washington Street.

George Frederick Dick, M.D., Assistant Professor of Medicine, 25 East Washington Street.

Robert Sonnenschein, M.D., Assistant Professor of Laryngology and Otology, 29 East Madison Street.

Thomas Williams Lewis, S.B., M.D., Assistant Professor of Laryngology and Otology, 4557 Broadway.

Archibald Hoyne, M.D., Assistant Professor of Medicine, 25 East Washington Street.

John Foote Norton, Ph.D., Assistant Professor of Bacteriology, University of Chicago.

John L. Jacque, M.D., Assistant Professor of Medicine, 1421 North Hoyne Avenue.

Robert Harry Herbst, M.D., Assistant Professor of Surgery (Genito-urinary), 32 North State Street.

Herman Louis Kretschmer, M.D., Assistant Professor of Surgery (Genito-urinary), 122 South Michigan Boulevard.

Paul Oliver, M.D., Assistant Professor of Surgery, 104 South Michigan Boulevard.

George Gilbert Davis, M.D., Assistant Professor of Surgery, 122 South Michigan Boulevard.

Isabella Herb, M.D., Assistant Professor of Surgery (Anesthetics), Presbyterian Hospital.

Dallas Baldwin Phemister, M.D., Assistant Professor of Surgery, 122 South Michigan Boulevard.

Charles Gilchrist Darling, M.D., Assistant Professor of Ophthalmology, 122 South Michigan Boulevard.

William George Reeder, M.D., Assistant Professor of Ophthalmology, 25 East Washington Street.

Ethel Mary Terry, Ph.D., Assistant Professor of Chemistry, University of Chicago.

John William Edward Glattfield, Ph.D., Assistant Professor of Chemistry, University of Chicago.

Charles Henry Swift, M.D., Ph.D., Assistant Professor of Anatomy, University of Chicago.

Victor Lupu Schrager, M.D., Assistant Professor of Surgery, 3300 Douglas Boulevard.

Arthur Laurie Tatum, M.D., Ph.D., Assistant Professor of Pharmacology, University of Chicago.

Gerald Louis Wendt, Ph.D., Assistant Professor of Chemistry, University of Chicago.

Ben H. Nicolet, Ph.D., Assistant Professor of Organic Chemistry, University of Chicago.

Warder Clyde Allee, Ph.D., Assistant Professor of Zoölogy, University of Chicago.

Harry Edgar Mock, M.D., Assistant Professor of Medicine (Industrial), 122 South Michigan Boulevard.

Alice Hamilton, M.D., Assistant Professor of Medicine (Industrial), Hull-House.

Vernon Cyrenius David, M.D., Assistant Professor of Surgery, 25 East Washington Street.

Kellogg Speed, M.D., Assistant Professor of Surgery, 122 South Michigan Boulevard.

Edward Allen Oliver, M.D., Assistant Professor of Dermatology, 25 East Washington Street.

James Herbert Mitchell, M.D., Assistant Professor of Dermatology, 25 East Washington Street.

Julie Maria Retinger, Ph.D., Assistant Professor of Physiological Chemistry, University of Chicago.

Walter Fritz Winholt, M.D., Assistant Professor of Medicine (Pediatrics), 25 East Washington Street.

Daniel Bernard Hayden, A.M., M.D., Assistant Professor of Laryngology and Otology, 122 South Michigan Boulevard.

Lester Reynold Dragstedt, M.D., Ph.D., Assistant Professor of Physiology, University of Chicago.

Joseph L. Baer, M.D., Assistant Professor of Obstetrics and Gynecology, 104 South Michigan Boulevard.

William Francis Hewitt, M.D., Assistant Professor of Obstetrics and Gynecology, 122 South Michigan Boulevard.

Robert James Gay, M.D., Instructor in Therapeutics, 30 North Michigan Boulevard.

Daniel Roberts Brower, M.D., Instructor in Therapeutics, 104 South Michigan Boulevard.

Edward James Lewis, M.D., Instructor in Surgery, 25 East Washington Street.

Henry H. Everett, M.D., Instructor in Laryngology and Otology, 30 North Michigan Boulevard.

Roger Throop Vaughan, M.D., Instructor in Surgery, Cook County Hospital.

John Charles Williams, M.D., Instructor in Laryngology and Otology, 815 Belden Avenue.

John Hancock McClellan, M.D., Ph.D., Instructor in Medicine, 122 South Michigan Boulevard.

James Richard Greer, M.D., Instructor in Medicine, 122 South Michigan Boulevard.

Homer King Nicoll, M.D., Instructor in Pathology; Serologist of the Presbyterian Hospital, 122 South Michigan Boulevard.

Edwin McGinnis, M.D., Instructor in Laryngology and Otology, 104 South Michigan Boulevard.

August Strauch, M.D., Instructor in Medicine (Pediatrics), 4557 Broadway.

Donald Putnam Abbott, M.D., Instructor in Medicine, 122 South Michigan Boulevard.

Arthur Norton Mackey, M.D., Instructor in Dermatology, 3420 Sheffield Avenue.

Carl Richard Moore, Ph.D., Instructor in Zoölogy, University of Chicago.

Harry G. Hardt, M.D., Instructor in Medicine, 6800 Constance Avenue.

Walter H. O. Hoffmann, M.D., Instructor in Medicine (Pediatrics), 122 South Michigan Boulevard.

Clark Owen Melick, S.B., Instructor in Anatomy, University of Chicago.

Asher F. Sippy, M.D., Instructor in Medicine, 122 South Michigan Boulevard.

Albert Horr Montgomery, M.D., Instructor in Surgery, 122 South Michigan Boulevard.

Franklin Benedict McCarty, M.D., Instructor in Surgery, 122 South Michigan Boulevard.

Edwin Morton Miller, M.D., Instructor in Surgery, 122 South Michigan Boulevard.

Gatewood, M.D., Instructor in Surgery and House Surgeon, 122 South Michigan Boulevard.

Golder L. McWhorter, M.D., Ph.D., Instructor in Surgery, 122 South Michigan Boulevard.

John Everett Gordon, S.B., Instructor in Bacteriology, University of Chicago.

Marion Hines, Ph.D., Instructor in Anatomy, University of Chicago.

Clarence L. Wheaton, M.D., Instructor in Medicine, 2738 Pine Grove Avenue.

Richard W. Watkins, S.B., Instructor in Anatomy, University of Chicago.

Fred M. Smith, M.D., Instructor in Medicine, 122 South Michigan Boulevard.

Esmond Ray Long, Ph.D., Instructor in Pathology, University of Chicago.

Emanuel B. Fink, Ph.D., M.D., Instructor in Pathology, University of Chicago.

Russell Otto Raulston, M.D., Instructor in Pathology, Resident Pathologist in the Presbyterian Hospital, 122 South Michigan Boulevard.

Albert W. Bellamy, Ph.D., Instructor in Zoölogy, University of Chicago.

Alvin Thompson, M.D., Instructor in Surgery (Genito-urinary), 32 North State Street.

Cassie Bell Rose, M.D., Instructor in Surgery (Radiology), Presbyterian Hospital.

John Frank Waugh, M.D., Instructor in Dermatology, 25 East Washington Street.

Mary Meda Rising, Ph.D., Instructor in Chemistry, University of Chicago.

John J. McBride, S.M. Research, Instructor in Organic Chemistry, University of Chicago.

John Favill, M.D., Instructor in Medicine (Nervous and Mental Diseases), 122 South Michigan Boulevard.

Howard Adler, Ph.D., Instructor in Chemistry, University of Chicago.

George Howell Coleman, M.D., Instructor in Medicine, 122 South Michigan Boulevard.

William Duncan McNally, A.B., M.D., Instructor in Materia Medica and Toxicology, 3734 North Harding Avenue.

Benjamin H. Willier, Ph.D., Instructor in Zoölogy, University of Chicago.

Harry Montgomery Weeter, S.M., Instructor in Bacteriology, University of Chicago.

Arthur Henry Parmelee, M.D., Instructor in Medicine (Pediatrics), 127 North Oak Park Avenue, Oak Park, Illinois.

Oscar Ellis Chase, M.D., Instructor in Medicine (Pediatrics), 4601 Broadway.

Maurice Braude, M.D., Associate in Medicine (Nervous and Mental Diseases), 1100 Independence Boulevard.

Frederick Olaf Frederickson, M.D., Associate in Medicine, 5937 Broadway.

Sigismund Franklin Waterman, M.D., Associate in Medicine, 2758 West Madison Street.

Francis Amos Chapman, M.D., Associate in Medicine, 30 North Michigan Boulevard.

Cecil Theodor Heidel, M.D., Associate in Medicine (Pediatrics), 747 Fullerton Parkway.

Frederic William Rohr, M.D., Associate in Obstetrics and Gynecology, 4159 North Robey Street.

Georgina Dvorak Theobald, M.D., Associate in Ophthalmology, 25 East Washington Street.

John Vincent Lawrence, S.B., Associate in Physiological Chemistry, University of Chicago.

Harry B. Van Dyke, Ph.D., Associate in Physiology and Pharmacology, University of Chicago.

Morris S. Kharasch, Ph.D., National Research Fellow in Organic Chemistry, University of Chicago.

Zonja Wallen Lawrence, S.B., Associate in General Chemistry, University of Chicago.

Anson Hayes, S.B., Research Associate in Physical Chemistry, University of Chicago.

Lillian Eichelberger, S.B., Research Associate in Organic Chemistry, University of Chicago.

Clarence E. Irion, S.B., Assistant Curator in Chemistry, University of Chicago.

Lee Connell Gatewood, A.M., M.D., Associate in Medicine, 122 South Michigan Boulevard.

Yale Norman Levinson, M.D., Associate in Medicine, 159 North State Street.

George A. Yeager, M.D., Associate in Medicine, 32 North State Street.

Leland C. Shafer, M.D., Associate in Medicine, 1633 West Jackson Boulevard.

Abraham B. Rimmerman, M.D., Associate in Medicine, 25 East Washington Street.

John Dayhuff Ellis, M.D., Associate in Medicine (Industrial), 122 South Michigan Boulevard.

Nathan Smith Davis III, M.D., Associate in Medicine, 7 West Madison Street.

William A. Thomas, M.D., Associate in Medicine, 122 South Michigan Boulevard.

Thomas Dyer Allen, M.D., Associate in Ophthalmology, 122 South Michigan Boulevard.

Fred Miller Drennan, M.D., Associate in Medicine, 122 South Michigan Boulevard.

Charles Kalus Stulik, M.D., Associate in Medicine (Pediatrics), 1658 West Twenty-first Street.

Lowell Delford Snorf, M.D., Associate in Medicine (Industrial), 25 East Washington Street.

Eva Frazer Johnson, M.D., Associate in Medicine, 11 N. Karlov Avenue.

William McMicken Hanchett, M.D., Associate in Surgery, 122 South Michigan Boulevard.

Mabel Marie Matthies, M.D., Associate in Obstetrics and Gynecology, 5 South Wabash Avenue.

Bertha M. Shafer, M.D., Associate in Dermatology, 25 East Washington Street

Clark Wylie Finnerud, M.D., Associate in Dermatology, 25 E. Washington Street.

Frederick William Burcky, M.D., Associate in Medicine, 122 S. Michigan Boulevard.

Marie Ortmayer, M.D., Associate in Medicine, 4557 Ellis Avenue.

Carl O. Rinder, M.D., Associate in Medicine, 122 South Michigan Boulevard.

Nicholas I. Fox, M.D., Associate in Medicine, 1500 West Taylor Street.

Julius Ernest Lackner, M.D., Associate in Obstetrics and Gynecology, 104 South Michigan Boulevard.

Kathleen Regan Harrington, M.D., Associate in Obstetrics and Gynecology, 104 South Michigan Boulevard.

Myron Ellis Kahn, Associate in Laryngology and Otology, 30 N. Michigan Avenue.

Arthur Churchill Strong, M.D., Associate in Laryngology and Otology, 319 Dempster Street, Evanston.

Herman B. Siems, S.B., Lecture Associate in Chemistry, University of Chicago.

Hugh James Polkey, Associate in Surgery (Genito-Urinary), 3810 Broadway.

Edward Howard Hatton, M.D., Associate in Pathology, 31 West Lake Street.

Willis Eugene Gouwens, S.B., Associate in Bacteriology, University of Chicago.

Noel Paul Hudson, A.B., Associate in Bacteriology, University of Chicago.

Morris Fishbein, M.D., Associate in the History of Medicine, 535 North Dearborn Street.

Frederic Max Nicholson, A.B., Associate in Anatomy, University of Chicago.

Harry R. Hoffman, M.D., Associate in Medicine (Nervous and Mental Diseases), 2705 West North Avenue.

Charles Otto Carlstrom, G.D., Assistant in Kinesitherapy, 108 North State Street.

Jeannette Brown Obenchain, Ph.B., Research Assistant in Anatomy, University of Chicago.

Libbie Henrietta Hyman, Ph.D., Research Assistant in Zoölogy, University of Chicago.

Jacob Myers, M.D., Assistant in Surgery (Orthopedic), 104 South Michigan Boulevard.

Earle B. Fowler, M.D., Assistant in Ophthalmology, 31 North State Street.

Leigh Festus Watson, M.D., Assistant in Surgery, 30 North Michigan Boulevard.

Frank V. Sander, S.B., Assistant in Organic Chemistry, University of Chicago.

Paul C. Fox, M.D., Assistant in Obstetrics and Gynecology, 132 North Oak Park Avenue, Oak Park.

Aubrey Chester Grubb, S.M., Assistant in Quantitative Analysis, University of Chicago.

Margaret Wilcox, S.B., Assistant in Chemistry, University of Chicago.

Thomas Cottrell, M.D., Assistant in Surgery (Genito-urinary), 800 North Clark Street.

Walter Thomas Venn, M.D., Assistant in Surgery (Genito-urinary), 25 East Washington Street.

Earl D. Huntington, M.D., Assistant in Medicine (Nervous and Mental Diseases) 331 West Sixty-third Street.

Barnet Edward Bonar, M.D., Assistant in Medicine (Pediatrics), 908 Winona Avenue.

Charles M. Bacon, M.D., Assistant in Medicine (Pediatrics), 6802 Ridgeland Avenue.

Melbourne Clements, M.D., Assistant in Surgery (Genito-urinary), 25 East Washington Street.

Elvin James Berkheiser, M.D., Assistant in Surgery (Orthopedic), 7 West Madison Street.

Grant Melvin Kloster, S.B., Assistant in Physiological Chemistry, University of Chicago.

Eloise Parsons, S.B., Assistant in Physiological Chemistry, University of Chicago.

Elizabeth Pauline Wolf, S.B., Laboratory Assistant in Pathology, University of Chicago.

Vera Huchison Adams, Assistant in Bacteriology, University of Chicago.

Everett Bowden, A.M., Assistant in Chemistry, University of Chicago.

Henry F. Cox, S.M., Assistant in Organic Chemistry, University of Chicago.

Mary Farnsworth, S.B., Assistant in Quantitative Analysis, University of Chicago.

Kellogg F. Bascom, S.M., Assistant in Zoölogy, University of Chicago.

James William Buchanan, S.B., Assistant in Zoölogy, University of Chicago.

James Wilson Gowanlock, S.B., Assistant in Zoölogy, University of Chicago.

Meta Kunde, S.B., Assistant in Physiology, University of Chicago.

Edgar C. Turner, S.M., Assistant in Physiology, University of Chicago.

Clarence F. G. Brown, S.B., Assistant in Physiology, University of Chicago.

Ralph Waldo Gerard, S.B., Assistant in Physiology, University of Chicago.

Leo Kempf Campbell, S.B., Assistant in Physiological Chemistry, University of Chicago.

William Frederick Schroeder, S.M., Assistant in Pharmacology and Physiology, University of Chicago.

Fred Temple Burling, S.B., Assistant in Pharmacology, University of Chicago.

Simon Hertzfeld, S.B., Assistant in Chemistry, University of Chicago.

Alfred Jurist, S.B., Assistant in Chemistry, University of Chicago.

Robert Stern Landauer, S.B., Assistant in Quantitative Analysis, University of Chicago.

Aaron Feldman, S.B., Assistant in Chemistry, University of Chicago.

Karl S. Means, S.B., Assistant in Organic Chemistry, University of Chicago.

James Kidder Stewart, S.B., Assistant in Chemistry, University of Chicago.

Edgar Wertheim, S.B., Assistant in Chemistry, University of Chicago.

Ralph L. Harris, S.B., Research Assistant in Pathology, University of Chicago.

Leland Wilber Parr, S.B., Assistant in Bacteriology, University of Chicago.

Francis Leo Foran, M.D., Assistant in Medicine, 4000 West Harrison Street.

Robert Wood Keeton, M.D., Assistant in Medicine, 1522 Howard Avenue.

Willson Bridges Moody, M.D., Assistant in Medicine, 122 South Michigan Boulevard.

Clifford J. Pearsall, M.D., Assistant in Medicine, Rush Medical College

Delon Acree Williams, M.D., Assistant in Medicine, 122 South Michigan Boulevard.

Henry Curtis Johnson, M.D., Assistant in Medicine (Pediatrics), 11 North Karlov Avenue.

John Alexander Gardiner, M.D., Assistant in Medicine (Pediatrics), LaGrange, Ill.

Henry Shacoff, M.D., Assistant in Medicine (Pediatrics), 3800 West Roosevelt Road.

Loren William Avery, M.D., Assistant in Medicine (Nervous and Mental Diseases), 816 South Ashland Boulevard.

Hillier, L. Baker, M.D., Assistant in Surgery, 1711 West Garfield Boulevard.

Jay Ireland, M.D., Assistant in Surgery, 5412 North Clark Street.

Ernest Charles McGill, M.D., Assistant in Surgery, 1564 Sherman Avenue, Evanston, Ill.

Henry Hoyt Cox, M.D., Assistant in Surgery, 6701 Stony Island Avenue.
Harold Lewis Morris, M.D., Assistant in Surgery (Genito-urinary), 122 South Michigan Boulevard.
Aaron Elias Kanter, S.M., M.D., Assistant in Obstetrics and Gynecology, 25 East Washington Street.
Aldo K. Germann, M.D., Assistant in Obstetrics and Gynecology, 104 South Michigan Boulevard.
Linn Frederick McBride, M.D., Assistant in Laryngology and Otology, 122 South Michigan Boulevard.
Herman Porter Davidson, M.D., Assistant in Ophthalmology, 22 East Washington Street.
William George Hibbs, M.D., *Dane Billings Memorial* Fellow in Medicine.
Francis Howe Straus, M.D., *Nicholas Senn* Fellow in Medicine.
Carl Richard Wagner, M.D., *Thompson-Bevan* Fellow in Surgery.
Martin Carl Lindem, M.D., *Francis A. Hardy* Fellow in Surgery.
Julius Retinger, M.D., Fellow in Dermatology, Hyde Memorial Fund.
Celestin B. Semerak, S.B., M.D., Fellow in Pathology, Rush Medical College.

FELLOWS APPOINTED FOR 1921–22

(in the departments offering medical courses at the university of chicago)

Samuel King Allison, S.B., Chemistry.
Kellogg Finley Bascom. S.B., Zoölogy.
Henry Kelly Buckner, A.B., Chemistry.
Ethel Florence Cooper, S.B., Physiology.
Jacob Martin Essenberg, S.B., Zoölogy.
Kenneth Fowler, A.B., M.D., Pathology.
Harold Clifford Goldthorpe, S.B., Physiological Chemistry.
Lois D. Green, A.B., Anatomy.
Robert Stern Landauer, Ph.D., Chemistry.
Herman Bernhard Siems, S.B., Chemistry.
Pranis Baltras Sivickis, A.B., Zoölogy.
Julian Francis Smith, S.M., Chemistry.
James Kidder Stewart, S.M., Chemistry.
Margaret Fitch Willcox, A.B., Chemistry.

EXTRA-MURAL FACULTY

at the home for destitute crippled children

Wallace Blanchard, M.D.,Assistant Clinical Professor of Surgery (Orthopedic).

at chicago isolation hospital

Heman Spalding, M.D., Associate Clinical Professor of Medicine.

at st. luke's hospital

Lewis L. McArthur, M.D., Assistant Clinical Professor of Surgery.

AT THE COOK COUNTY HOSPITAL

Daniel Eisendrath, M.D., Clinical Professor of Surgery.
Clarence A. Neymann, M.D., Assistant Professor of Medicine (Psychiatry).
May Michael, M.D., Assistant Professor of Medicine (Pediatrics).
Hugh McKenna, M.D., Assistant Professor of Surgery.
David C. Strauss, M.D., Assistant Professor of Surgery.

AT THE ILLINOIS CHARITABLE EYE AND EAR INFIRMARY

Henry R. Boettcher, M.D., Instructor in Ophthalmology.

OFFICERS OF ADMINISTRATION

AT THE UNIVERSITY OF CHICAGO

Harry Pratt Judson, President of the University, Harper Memorial Library, Room W11.
John Milton Dodson, Dean of Medical Students, Ellis Hall, Room 24.
Ernest DeWitt Burton, Director of the University Libraries, Harper Memorial Library, Room M27.
Nathaniel Butler, Director of Co-operation with Secondary Schools, Cobb Lecture Hall, Room 11A.
Edgar Johnson Goodspeed, Secretary to the President, Harper Memorial Library, Room W11.
Walter A. Payne, University Recorder and Examiner, Cobb Lecture Hall, Room 5A.
Marion Talbot, Dean of Women, Cobb Lecture Hall, Room 9A.
Sophonisba Preston Breckinridge, Assistant Dean of Women, Cobb Lecture Hall, Room 9A.

AT RUSH MEDICAL COLLEGE

Frank Billings, Dean of the Faculty.
John Milton Dodson, Dean of Students.
Oliver Samuel Ormsby, Secretary of the Faculty.
William Hamlin Wilder, Comptroller.
James H. Harper, Registrar.
Catharine A. McAuliff, Librarian.

THE ADMINISTRATIVE BOARD OF MEDICAL AFFAIRS

AT THE UNIVERSITY OF CHICAGO

The President, *Chairman*

The Recorder, *ex officio.*
Dean John Milton Dodson, *ex officio.*
Dean Leon Carroll Marshall, *ex officio.*
Dean Henry Gordon Gale, *ex officio.*
Dean Marion Talbot, *ex officio.*
Dean Horatio Hackett Newman, *ex officio.*
Professor John Merle Coulter.

Professor Albert Abraham Michelson.
Professor Nathaniel Butler.
Professor Frank Billings.
Professor Ludvig Hektoen.
Professorial Lecturer Walter Stanley Haines.
Professorial Lecturer Arthur Dean Bevan.
Professor Julius Stieglitz.
Professor Edwin Oakes Jordan.
Professor Frank Rattray Lillie.
Professor Robert Russell Bensley.
Professor Charles Judson Herrick.
Professor Robert Andrews Millikan.
Professor Harry Gideon Wells.
Professor Anton Julius Carlson.
Professor Basil Coleman Hyatt Harvey.
Professor Preston Kyes.
Professor Charles Manning Child.
Associate Professor George William Bartelmez.
Associate Professor Arno Benedict Luckhardt.
Associate Professor Fred Conrad Koch.
Associate Professor David Judson Lingle.
Assistant Professor John Foote Norton.
Assistant Professor Charles Henry Swift.
Assistant Professor Arthur Lawrie Tatum.
Assistant Professor Warder Clyde Allee.
Assistant Professor Julie Marie Retinger.
Assistant Professor Lester Carl Dragstedt.
Dr. Dudley B. Reed.
Dr. Carl R. Moore.
Dr. Albert W. Bellamy.
Mr. John Everett Gordon.
Dr. Marion Hines.
Mr. Richard W. Watkins.
Dr. Esmond Ray Long.
Dr. Emanuel B. Fink.
Dr. Harry Weeter.
Dr. Benjamin H. Willier.
Mr. John Vincent Laurence.
Dr. Henry B. Van Dyke.
Mr. Willis Eugene Gouwens.
Mr. Noel Paul Hudson.

INTRODUCTORY STATEMENT

FRESHMAN AND SOPHOMORE CLASSES ARE LIMITED TO 100 IN EACH CLASS; THE JUNIOR AND SENIOR CLASSES TO 120 IN EACH CLASS. NO APPLICATION WILL BE RECEIVED AFTER AUGUST 1, 1921.

The student *must* commence the medical curriculum with the Autumn or Spring Quarter in order to pursue the medical courses in proper sequence.

Changes in rules and regulations.—The right is reserved by the Faculty to make changes at any time in requirements for admission, curriculum, fees, or any rules and regulations.

The curriculum.—The curriculum of Rush Medical College, extending over five annual sessions of nine months (three quarters) each, embraces (1) two years of work in the fundamental branches of Anatomy, both gross and microscopic, Neurology, Embryology, Physiology, Physiological Chemistry, Pharmacology, Hygiene and Bacteriology, and Pathology; (2) two years in the clinical branches of Materia Medica, Therapeutics, Clinical Pathology, Medicine, Surgery, Obstetrics, and the special lines of practice; and A FIFTH INTERNE OR ADVANCED WORK YEAR.[1]

The work of this fifth year will consist of:

A. An interneship in a hospital approved by the Faculty and taken under conditions prescribed by the Faculty, or

B. Advanced work as a Fellow or Research Student in one of the departments of the College, *including clinical work*, with the presentation of a dissertation embodying original work.

Fundamental branches of the University of Chicago.—The courses in the fundamental branches are offered only at the University of Chicago, in the spacious Hull Biological Laboratories, by instructors whose time is wholly devoted to teaching and investigation in their respective lines. It is believed that the student pursuing these studies in the atmosphere of an institution devoted to scientific work cannot but gain a broader and more thorough conception of these sciences. Such a training will not only afford a better preparation for the clinical courses of the Medical College and for the practice of medicine and surgery, but will also enable the student to follow more easily in paths along which medical advances are begin made and to apply these new discoveries in his daily work.

The clinical branches are taught at Rush Medical College, with its Central Free Dispensary, the Presbyterian Hospital, the Home for Destitute Crippled Children, the Cook County Hospital, the Durand Hospital of the John McCormick Institute for Infectious Diseases, and other hospitals in the vicinity of the College.

The requirements for admission comprise (*a*) the completion of a four-year high-school course, and, in addition, (*b*) two years of work in a recognized college or university. This requirement will be increased to 2⅔ years (24 majors)

[1] *From 1905 to 1914, this fifth year was offered as an optional year, leading to the degree of Doctor in Medicine, "Cum Laude." The increasing demand for internes has made it possible for every graduate of Rush Medical College to secure such a position in a first-class hospital. For regulations governing the interne year, see pp. 43–45.*

for the Spring Quarter, 1922, and to 3 years (27 majors) of college work for the Autumn Quarter, 1922, and thereafter (see pp. 26–29).

No person should enter upon the study of medicine with a preparation less thorough and comprehensive than that demanded by these minimum requirements. The medical examining boards in most of the states require this amount of premedical work as a prerequisite for licensure. *Every student should complete a four-year college course, including the physics chemistry, and biology above mentioned, before entering the Medical School, if his age and other circumstances make it possible for him so to do.* This additional college work should secure for him a greater breadth of culture and a catholicity of interest which will make him a man of larger power, influence, and usefulness in the community.

Admission to advanced standing.—Students or graduates of other medical colleges whose work is recognized by this College may be admitted to advanced standing (see p. 31).

Requirements for graduation.—The minimum requirements for graduation comprise attendance upon four sessions of three quarters (nine months) each, the completion of a prescribed amount of work, the passing of certain examinations both written and practical, and the successful completion of the fifth year (see p. 31).

The combined course for the degree of M.D. and S.B., A.B., or Ph.B.—Attention is called to the fact that courses are offered in the University of Chicago in the Departments of Art, Literature, and Science, in all the branches of a liberal education (see p. 29).

Higher degrees.—A Master's degree or the degree of Ph.D. may be secured by special work in the medical sciences, and additional residence, in conformity with the regulations of the University covering such degrees.

The elective system.—The work of the medical curriculum is, in part, elective, the choice of the student for each quarter being subject to certain restrictions (see paragraph 4, p. 41).

The quarter system.—The College is in session during four quarters each year, but *students beginning their medical work must commence with the Autumn or Spring Quarter* (see p. 39).

The tuition fee is seventy-five dollars per quarter, or two hundred and twenty-five dollars for each of the four annual sessions, this tuition including all laboratory fees (see pp. 33–37).

Student self-help.—Many opportunities are afforded in Chicago for students to earn a portion (and in exceptional cases the whole) of their expenses. A booklet giving fuller information in regard to this matter will be mailed on application.

GENERAL REGULATIONS

Students are admitted to the Medical Courses as medical students (of Rush Medical College), and also, by the same matriculation and fee, as (1) *undergraduate students* (candidates for a Bachelor's degree, S.B., A.B., or Ph.B.) or (2) *graduate students.* (*Graduates* of the University of Chicago, or of other universities or colleges of good standing, are admitted to the Medical Courses as graduate students; they are allowed all the privileges of the members of the Graduate

Schools of the University.) In addition to students in regular standing, provision is made for the admission to the University of undergraduate students not seeking degrees. Such students are known as *unclassified students.* They may register for medical subjects, *but they are not candidates for the M.D. degree.*

1. *Admission.*—(*a*) Each student must present to the Faculty a certificate of good moral character, signed by at least two physicians of good standing in the state in which the applicant last resided. Space is provided for this purpose on the Application Blank. (*b*) He must be able to comply with the requirements for admission to the Medical Courses of the University of Chicago (see pp. 26–29). In brief, they consist of a four-year high-school course plus two (for the Autumn Quarter 1922, three) years of college work, which must have included Latin, if not taken in high school, English, Trigonometry, College Physics, Chemistry, and Zoölogy, and a reading knowledge of French or German. (*c*) He will matriculate and register as a student of Rush Medical College as well as of the University at the beginning of his medical course. Such matriculation and registration are accomplished at the Universtity without extra fee.

2. *Medical Courses as undergraduate work in the course for a Bachelor's degree.*—(*a*) The first two years' work in Medicine may be taken as the third and fourth years of the Bachelor of Science course, or, in very large part, of the course for the degree of A.B. or Ph.B. (For requirements see p. 30). Students who wish to enter college and prepare to take the medical work as part of their Baccalaureate course may enter at the beginning of the Junior College course (first college year or at any further stage of advancement).[1] (*b*) Each student must comply with 1(*a*). (*c*) In order to comply with the rules of the medical examining boards of several states, a student will matriculate with the Dean of Rush Medical College (at the University) at the beginning of his work in Medicine and will consult with the Dean of Medical Students each quarter in regard to his work, and take a card of advice to the Dean of the Senior Colleges, with whom the student will continue to register until he receives a Bachelor's degree. *Credit will not be given toward the M.D. degree unless the student complies with this regulation.*

3. *Admission as a graduate student.*—(*a*) Admission to the Graduate Schools of the University is granted (1) to those who have been graduated from the Colleges of the University of Chicago with the degree A.B., Ph.B., or S.B.; (2) to those holding Baccalaureate degrees from other institutions of good standing. (*b*) Such students should present their diplomas or other evidence of graduation from a standard college at the office of the Dean of the Graduate Schools. Inquiry regarding eligibility for admission to the Graduate Schools (stating degree and date, and institution conferring it) should be made of the University Examiner in advance. (*c*) A graduate student taking the Medical Courses must comply with 1 (*a*) and (*c*). He will consult each quarter with the Dean of Medical Students, and will take a card of advice from him to the Dean of the Graduate School, with whom the student will register. *Credit will not be given toward the M.D. degree unless the student complies with this regulation.* (*d*) Advanced standing in the Medical Courses is granted for work done in other medical schools according to the conditions stated on p. 31 of this *Circular.*

[1] A student desiring to enter the course as a candidate for the S.B., A.B., or Ph.B. degree is requested to write the University Examiner, University of Chicago, Chicago, Ill.

4. *Unclassified students.*—Persons at least twenty-one (21) years of age not seeking a degree may be admitted, through the office of the University Examiner, to the courses of instruction offered in the University, as unclassified students, on the following conditions:

1. They shall present (*a*) credentials showing the completion of work equivalent to the admission requirements of the Colleges, or (*b*) evidence of successful experience as a teacher or other valuable educative experience in practical life.

2. Each applicant shall present by certificate or examination evidence of training in English at least equivalent to the entrance requirements of the Colleges in that subject. This requirement may be waived in the case of foreign students of ability who have a sufficient knowledge of the English language to profit by the instruction offered.

3. They shall give satisfactory reason for not classifying and becoming candidates for degrees.

4. They enter the University for the purpose of making a study of a definite subject or group of subjects for which adequate preparation has been received. In case of doubt as to the applicant's ability to pursue successfully the work desired, the approval of the instructor to whose courses admission is sought, or of an official representative of the department concerned, will be required.

5. They may not register for elementary courses only, i.e., courses intended for first-year college students.

6. They are subject to the general regulations pertaining to other undergraduates, including attendance at Chapel Assembly and, unless excused by the Dean, work in Physical Culture.

7. They are ineligible for public appearance.

NOTE.—Students entering the University for the first time should make it a point to complete all arrangements for entrance, either by correspondence or in person, *at least two weeks before the opening of the quarter.*

THE CURRICULUM

1. *The fundamental medical branches.*—The course for the first two years' work in Medicine consists mainly of instruction in the fundamental medical sciences. It includes the following courses:

a) *Chemistry*, The Chemistry of Medicinal Drugs, ½ major (85).[1]

b) *Anatomy*, 6½ majors as follows: Human Anatomy (Dissecting) 3½ majors (1, 2, 3, 4); Splanchnology, Histology, and Cytology, 1 major (10); Embryology, 1 major (Zoölogy 20 or 21); Neurology, 1 major (Anatomy 17).

c) *Physiology*
d) *Physiological Chemistry and Pharmacology* } 6 majors as follows: Physiology, 3 majors (12, 13, 14); Physiological Chemistry, 2 majors (19 and 20); Pharmacology, 1 major (21).

e) *Pathology*, 2 majors as follows: Pathology (1, 2).

f) *Hygiene and Bacteriology*, 1½ majors as follows: Bacteriology (2B).

g) 1½ additional majors in any department or departments of the students' choice, approved by the Faculty.

[1] The numbers in parentheses refer to the course numbers in the corresponding department.

A total of 18 majors.[1] All this work is given at the University of Chicago.

2. *The clinical medical branches.*—The work of the two clinical years comprises the following branches: (*a*) Materia Medica, Therapeutics, Medical Jurisprudence, and Preventive Medicine, at least 2 majors; (*b*) Pathology, at least 1 major; (*c*) Medicine, at least 5½ majors; (*d*) Surgery, at least 5½ majors; (*e*) Obstetrics and Gynecology, at least 3 majors; (*f*) Laryngology and Otology, at least 1.2 majors; (*g*) Ophthalmology, at least .8 major; (*h*) Skin and Venereal Diseases, at least 1 major; (*i*) additional work in any branch, or branches, of the student's choice, at least 2 majors; a total of 22 majors.

REQUIREMENTS FOR ADMISSION TO THE MEDICAL COLLEGE

These comprise as a minimum (*A*) the successful completion of a four-year high-school or academy course, qualifying the student to enter the Junior College (Freshman class) of the University of Chicago, (*B*) 18 majors[2] (=6 quarters) of the usual college course, or a full equivalent therefor, (*C*) sustaining an average of 2½ grade-points per major in premedical college work, and (*D*) passing a satisfactory physical examination. He may be required to pass a psychological or general intelligence test.

A. HIGH-SCHOOL WORK REQUIRED FOR ADMISSION TO THE JUNIOR-COLLEGE (FRESHMAN CLASS), UNIVERSITY OF CHICAGO[3]

A student must offer for admission 15 units[4] of credit by examination or by certificate from an approved school from which he has graduated with an average grade higher than the pass mark of the school by at least 25 per cent of the difference between that mark and 100. Among these must be (*a*) 3 units of English, (*b*) a "principal group" of 3 or more units, and (*c*) a "secondary group" of 2 or more units. Of the 15 units 7 must be selected from the subjects named in the groups designated below; 5 may be selected from any subjects for which credit toward graduation is given by the approved school from which the student receives his diploma.

The principal and secondary groups offered may be selected from the following: (1) Greek, (2) Latin, (3) a modern language other than English, (4) History, Civics, and Economics, (5) Mathematics, (6) Physics, Chemistry, Botany, Zoölogy, General Biology, General Science, Commercial Geography, Physiology, Physiography, Geology, Astronomy. To form a language group the units must be all in one language. In other groups any combination of subjects may be made. Credit is not given for less than 1 unit each in Algebra, Plane Geometry, Physics, Chemistry, or a language. In Latin 2 units must be offered if the subject is to be continued in college. Less than ½ unit in any subject is not accepted.

[1] For definition of major see p. 39.

[2] This requirement will be increased to 24 majors, for the Spring Quarter, 1922, and to 27 majors (=3 years) of college work for the Autumn Quarter, 1922, and thereafter.

[3] A complete and more detailed statement of the requirements and the ground covered by each subject will be sent to any principal, teacher, or student on application to the Dean of Medical Students.

[4] A *unit* corresponds to a daily recitation of 45 minutes throughout the school year of thirty-six weeks.

SUMMARY OF ADMISSION REQUIREMENTS

3 units of English.

3 (or more) units in a single group, 1–6.

2 (or more) units in another single group, 1–6.

2 (or less) units in subjects selected from any of the groups 1–6.

[Total 10 units in English and groups 1–6.]

5 units selected from any subjects accepted by an approved school for its diploma.

Entrance with conditions is not permitted.

Students intending to study medicine are strongly advised to take in the high school 2 units of Latin (Elementary Grammar and Caesar), 3 units of German or French, 1 unit each of Chemistry and Physics—with laboratory work. If these branches have not been taken in the high school, they must be taken as part of the college work required for admission (see section B, pp. 28–29). One-half unit of Trigonometry is strongly advised. A diploma is not accepted as sufficient evidence of such preparation, but specific statement is required as to the amount and character of the work in each branch of study. Blanks for the presentation of such credits will be mailed on application to the University Examiner.

TIME OF PREPARATION—ADMISSION UNITS

Preparation for admission to a Junior College is expected to cover a period of four years in a secondary school (high school or academy) of high grade. Admission credits are reckoned in units. A unit is a course of study comprising not less than 120 clock hours of prepared work. Two hours of laboratory work are regarded as the equivalent of one hour of prepared work.

METHODS OF ADMISSION

Admission to the Junior Colleges of the University may be obtained by one of the following methods: by certificate, by examination, or by a combination of the two methods.

1. *Admission by certificate.*—Students who present credentials showing graduation from any of the following schools and whose course of study covers the entrance requirements indicated above will, upon the recommendation of their respective principals, be admitted without examination: (1) the accredited[1] schools of the University including (*a*) schools accredited by the North Central Association of Secondary Schools and Colleges; (*b*) schools approved by the Board of Admissions after inspection by official representatives of the University; (2) schools accredited by the New England College Entrance Certificate Board; (3) schools outside the territory of the associations above mentioned but accredited by a leading state university whose standards of admission are substantially the same as those of the University of Chicago. The University reserves the right to refuse admission to any student whose preparatory work was of such grade as to create serious doubt of his ability to pursue college work successfully.

2. *Admission by examination.*—Regular entrance examinations are held twice each year, in June and in September, the June examinations being those

[1] The continuation of any school on the accredited list of the University will depend upon the records made in the University by its graduates admitted on certificate.

of the College Entrance Examination Board. The candidate may, at his option, take his examinations at different times, provided that no examination is valid after three years from the date when taken and that no student shall be admitted to examination at more than three regular periods. Students who present by certificate less than 15 units from an accredited school may complete the requirements for admission by examination.

a) The June Examinations.—The examinations held by the College Entrance Examination Board in June of each year will be accepted as a satisfactory substitute for the admission examinations held by the University of Chicago. The board's examination this year will be held during the week June 20–25 and the corresponding week of the following year.

All applications for examination must be addressed to the Secretary of the College Entrance Examination Board, 431 West 117th Street, New York, N.Y., and must be made upon a blank form to be obtained from the secretary of the board upon application.

b) The September examinations.—The September examinations are held at the University. Those for 1921 will be held September 12–16. Applications for admission to these examinations should be made to the University Examiner at least thirty days in advance. Each applicant will pay in advance an examination fee of $5.00. The University Cashier's receipt for this fee entitles the student to admission to examination in as many subjects as he wishes to take at one time.

c) Special examinations.—Students seeking admission at the beginning of the Winter or Spring Quarter may, upon application to the University Examiner at least thirty days in advance, arrange for special examination in subjects in which they are deficient. For admission to such special examination a fee of $5.00 is charged.

B. COLLEGE WORK REQUIRED FOR ADMISSION TO THE MEDICAL COURSES

Eighteen majors[1] (two years) of college work must have been taken, and this work must have included the following branches:

(1) Chemistry—(*a*) 3 majors of Inorganic Chemistry (or 2 majors if 1 unit of high-school Chemistry with laboratory work has been taken); (*b*) 1 major of Organic Chemistry; (*c*) 1 major of Qualitative Analysis. This work in Chemistry corresponds to the courses Chemistry 1, 2, 3, 4, and 6 (see pp. 61–68). The student is advised to take Quantitative Analysis, but this is not required.

(2) Physics—4 or 5 majors of Physics (or 2 or 3 majors if 1 unit of high-school Physics has been taken). This work in Physics corresponds to the courses Physics 1, 2, 3, 4, and 5, or 1, 2, 3S, and 4S, with Trigonometry.

(3) 2 majors of General Biology (Zoölogy 1 and Zoölogy 17) (see pp. 49–50).

(4) A reading knowledge of German or of French (ordinarily 2 units of high-school or 4 majors of college work). This knowledge is determined by an efficiency test given, for 1921–22, about November 19.

(5) 2 majors of Latin (Elementary and Comparative Grammar) unless 1 unit has been completed in high school.

7. English—2 majors of college composition. This work corresponds to courses 1 and 3 in the English Department, University of Chicago, which are

[1] Beginning with the Spring Quarter, 1922, twenty-four majors, and with the Autumn Quarter, 1922, twenty-seven majors will be required.

strictly courses in writing. English 1, for first-year students, requires at least twenty-four papers of over five hundred words each, class themes, and a lengthy term paper based on library work. English 3, offered in any quarter after the third in residence, is devoted largely to argumentative and expository writing, with a somewhat larger quantitative requirement than English 1. Both are required of all candidates for a Bachelor's degree. Students bringing from another standard institution a credit of six or more semester hours for work in composition somewhat different from that outlined above may, after examination, be exempted by the Departmental Examiner in English from further training in composition.

Every student who is considering the question of entering upon the study of medicine is requested to write to the Dean of Medical Students for a blank application for admission, to fill out the same carefully, giving full details of his high-school and college work, and to mail the application, thus completed, to the Dean. He will be informed as promptly as possible as to just what credit he can be given, and in what, if any, branches he is deficient. This will make it unnecessary for the student to estimate closely his own credits, and will secure for him a prompt and definite reply to his inquiry concerning his preparation for the study of medicine.

The physical examination is conducted by the University Health Officer, and assistants.

C. REQUIREMENTS FOR THE COMBINED COURSE FOR THE DEGREES OF S.B. AND M.D.

The college preparation for the Medical Courses may be accomplished at the University of Chicago[1] in six quarters. A student is not admitted to the Medical Course with conditions, unless he has an equivalent amount of advanced standing in the medical curriculum (e.g., histology or embryology). *In this case these conditions must have been removed before he can enter upon the work of the second year of the Medical Courses.*

Attention is called to the fact that any credits which be may required in addition to high-school work may be secured in the Colleges of Arts, Literature, and Science of the University of Chicago by attendance during extra quarters before entering the Medical Courses. Students deficient in premedical work are urgently advised to enter the University for the Spring or Summer Quarter, in order to make up deficiencies. Credit will be accepted for such work done in any other college or university of equal standing.

Students seeking a Bachelor's degree (A.B., Ph.B., or S.B.) from the University of Chicago, in connection with the degree of M.D. from Rush Medical College, must comply with the established regulations of the University prescribed for the courses leading to such degrees. As the fundamental branches of the medical curriculum are taught in the University, the student may combine the course for a Bachelor's degree with that for the Medical degree, electing as science courses those offered in the Departments of Anatomy, Physiology, etc., which are also courses in the medical curriculum. The prescribed work for these degrees is indicated on p. 30.

While it is thus possible for one to secure a Bachelor's degree and the degree of M.D. in from six to seven years, every student should secure a more thorough and comprehensive collegiate preparation if it is possible for him so to do. For students taking this broader course the following subjects are recommended as of especial value in preparation for medical study: Greek, 3 majors; Calculus,

[1] After March, 1922, eight quarters, and after September, 1922, nine quarters.

1 major; Elementary Botany, 1 major; General Morphology of Thallophytes, 1 major; Zoölogy, 3 majors; Introductory Physiology, 1 major; Physical Chemistry, 1 major; Quantitative Chemical Analysis, 1 major; Physiography, 1 major; Psychology, 2 to 4 majors.

TOTAL REQUIREMENTS FOR THE BACCALAUREATE DEGREES

COLLEGE COURSES

College courses, with few exceptions, are given as "majors," one exercise daily throughout a quarter. Three majors and the required work in Physical Culture constitute full work for a quarter. In comparison with admission credits two majors are reckoned as equal to one unit.

REQUIREMENTS IN THE JUNIOR COLLEGES

During his first two years the student is required to take:

1. Two majors of English (courses 1 and 3). English 1 must be taken in the first quarter of residence.

2. A "continuation group" of three consecutive majors, taken during the first year, which continues the work of either his principal or secondary admission group or of a subject in which he took one unit in the Senior year of high school. Careful consideration should be given to the choice of these courses.

3. Enough majors in each of the following "distribution groups" to make his total (high-school+college) credit in each group 4 majors (=2 units).

I. Philosophy, History, and Social Science: Departments of Philosophy, Psychology, Education, Political Economy, Political Science, History, History of Art, and Sociology and Anthropology.

II. Foreign Language (all 4 majors in one language): Departments of Greek Language and Literature, Latin Language and Literature, Romance Languages and Literatures, Germanic Languages and Literatures.

III. Mathematics: Department of Mathematics.

IV. Science: Departments of Astronomy and Astrophysics, Physics, Chemistry, Geology and Paleontology, Geography, Zoölogy, Anatomy, Physiology, Physiological Chemistry and Pharmacology, Botany, Pathology, and Hygiene and Bacteriology.

REQUIREMENTS FOR A BACHELOR'S DEGREE

The Bachelor's degree is conferred when the student has completed 36 majors and obtained at least 72 grade-points, exclusive of required work in Physical Culture.[1] These 36 majors shall include one principal sequence of at least 9 coherent and progressive majors taken in one department or in a group of departments and one secondary sequence of at least 6 majors selected from a different department or group of departments. These sequences must have the approval of the Dean. The courses in medicine may be counted in satisfaction of the principal sequence and the premedical courses may be counted in satisfaction of the secondary sequence.

[1] The marking system is fully explained in the *Undergraduate Course Book*, which is issued to each student.

The degree of A.B. is conferred when the principal sequence consists of 11 majors of Latin and 9 majors of Greek (7 if all are taken in the University), including entrance work. A secondary sequence of 6 majors is also required.

The degree of Ph.B. is conferred when the principal sequence has been taken in the Departments of Philosophy, Social Sciences, Language, or Literature.

The degree of S.B. is conferred when the principal sequence has been taken in the Departments of Mathematics or Science.

Mathematics may at the option of the student be used as the principal department for the degree of either Ph.B. or S.B.

ADMISSION TO ADVANCED STANDING IN THE MEDICAL COURSES

Students are admitted to advanced standing in Rush Medical College as follows:

Students from other medical schools whose standards are fully equivalent to to those of this institution may receive credit for time spent—estimated in months—and for work successfully completed in such institutions, provided it is equivalent to corresponding work in the courses in Rush Medical College. Such a student should give an explicit statement in regard to his preliminary education, in high school or academy and in college, before beginning the study of medicine, the date of beginning and ending of each session attended in a medical college, together with the name of the college and a statement of the studies which he has successfully completed, this latter statement setting forth the exact number of hours given to each subject. The credit claimed in each branch must be passed upon by the Dean of Medical Students. *Attention is called to the fact that a limit is set to the number of students admitted to each class. Those to be admitted are selected on the basis of merit, especially in scholarship.*

Application blanks.—Blanks for presenting these credits will be furnished on application to the Dean of Medical Students. A student may matriculate at any time in person or by correspondence.

REQUIREMENTS FOR GRADUATION

The following are the requirements for the degree of Doctor of Medicine:

The candidate must be not less than twenty-one years of age and must have studied medicine the legal period. He must have paid all dues, must have complied with all the requirements, and must have maintained unexceptionable conduct while at the College.

He must have attended twelve full quarters, or an equivalent amount of time, in a recognized medical school, of which at least the last three quarters must have been taken in this institution, and fifty-two months must have elapsed between the beginning of his first session in a medical school and the date of his graduation.

He must have completed successfully all of the work required, as follows: 18 majors of work in the Freshman and Sophomore years, comprising a minimum of 6½ majors in Anatomy (from courses offered in the Department of Anatomy and the subdepartment of Embryology; these courses include both Gross and

Microscopic Anatomy[1]); 6 majors in Physiology (from courses offered in the Departments of Physiology and of Physiological Chemistry and Pharmacology); 2 majors in the Department of Pathology; 1½ majors in the Department of Bacteriology; 1½ majors in one or more of the departments of his choice.[2]

His work for the first two years must be pronounced satisfactory by the Committee on Promotions, when a certificate for the completion of the first 18 majors of medical work will be issued to him.

Twenty-two majors of work in the Junior and Senior years, comprising a minimum of 2 majors in Pharmacy, Materia Medica, Therapeutics, and Preventive Medicine; 1 major in Pathology; 5½ majors in Medicine; 5½ majors in Surgery; 3 majors in Obstetrics and Gynecology,[3] at least 2 majors of which must be in Obstetrics; 1.2 majors in Laryngology and Otology; .8 major in Ophthalmology; 1 major in Skin and Venereal Diseases, 2 additional majors in any branch or branches of his choice. These requirements are presented in detail in the departmental statements, pp. 61–88.

He must have passed successfully, a final examination, both written and practical, in Materia Medica and Therapeutics; Pathology; Medicine; Surgery; Obstetrics and Gynecology; Laryngology and Otology; Ophthalmology; Skin and Venereal Diseases.

On the successful completion of four years of work, and of the final examinations, a four-year certificate is issued which qualifies the student to serve as an interne in a hospital.

He must serve a year of successful interneship in an approved hospital, or in advanced work, including clinical training, in one of the departments of the College.

He must attend the graduating exercises and receive his diploma in person, unless excused for cause by special action of the Faculty.

GENERAL INFORMATION FOR STUDENTS ENTERING THE FRESHMAN AND SOPHOMORE CLASSES

ROUTINE OF ENTRANCE

I. CREDENTIALS

Applications should be addressed to The University of Chicago, or to Rush Medical College, Chicago, Ill. When presenting himself for admission to the University, the student should bring his *admission credits*, if he is entering a Junior College at its beginning; his *letter of dismissal* and an official statement concerning his previous work, if he is entering with advanced standing from another institution; and a *diploma*, if he is applying for admission to a Graduate School.

These documents should be presented at the office of the Dean of Medical Students, Ellis Hall. Detailed directions will be furnished in the Dean's office as to the mode of matriculating and registering for courses of instruction desired.

II. MATRICULATION AND REGISTRATION

1. *Time of Registration.*—(*a*) Students in residence will register on the days announced on the bulletin boards and in the *Weekly Calendar*. (*b*) Students

[1] They must include the dissection of the lateral half of the human body.

[2] As to the conditions governing such choice see p. 41, paragraph 4.

[3] Each student must have personally attended not less than twelve patients in confinement.

entering the University for the first time, or resuming work after absence for a quarter, will register on the first day of the quarter.

2. *Order of procedure for new students.*—New undergraduate students will: (*a*) In case they come from a secondary school or another college present credentials to the University Examiner and secure a certificate of admission and a *Course Book.* This should be done by correspondence. New students are urged to send their credentials to the Examiner at least two weeks before they come to register. (*b*) Matriculate in the office of the Dean of the School or College to which admission is desired. Matriculation is granted on presentation of the proper credentials which entitle the student to enter the University. As evidence of admission the student is given a *matriculation card.* This card should be retained under all circumstances, as it must be shown whenever membership in the University is to be demonstrated. (*c*) Register in the same office for the courses of study desired for the ensuing quarter. For this purpose the student will be given a *registration card* for the quarter, on which, after consultation with the Dean, the courses desired will be entered. (*d*) Pay the University fees for the ensuing quarter. In order to do this, the student will present the matriculation card and the proper registration card at the office of the Cashier, Press Building. Room 1. On payment of fees the Cashier will stamp the matriculation card and return it to the student, together with a receipt for tuition fees and for laboratory fees (if any).

Tuition and other fees may conveniently be paid by check to the order o the University of Chicago. Details as to fees will be found below.

The names of the students will be sent to instructors as entitled to attend classes *only after the fees have been paid,* as above specified.

Graduate students follow the procedure above but report to the dean of the Ogden Graduate School of Science instead of to the University Examiner.

FEES FOR MATRICULATION, TUITION, DEPOSITS, AND APPARATUS

1. *Matriculation fee.*—(*a*) The matriculation fee is $5.00, and is required of every student on entrance to the University. It is payable but once. (*b*) A medical student will also matriculate as a student of Rush Medical College. No extra fee is charged, and the matriculation is good for the complete Medical Course, including the clinical years. (*c*) An undergraduate student, candidate for a Bachelor's degree, who wishes to take the Medical Courses as a part of the work for the Bachelor's degree will matriculate also as a student of Rush Medical College at the beginning of the first year of his work in the Medical Courses. No extra fee is charged, and the matriculation is good for the complete Medical Course, including the clinical years.

NOTE.—Matriculation for Rush Medical College can be accomplished at the University through the Dean of Medical Students.

2. *Tuition fee.*—(*a*) The tuition fee for the Medical Courses (3 to 3½ majors each quarter) is $75.00 per quarter, including laboratory fees.

Under the medical-practice acts and the rules of the medical examining boards of most of the states of this country, an applicant for a license to practice must have attended at least four annual sessions in a recognized medical school. Therefore a student taking the Medical Courses with a view to procuring the degree of M.D. must matriculate *as a medical student* at least fifty-two months before the date of his expected graduation in medicine. From the date of such matriculation he is required to pay the tuition fee for the Medical Courses,

whether he is registered as a Senior College student, a graduate student, or otherwise.

In order that a graduate student or Senior College student may have his work counted toward the M.D. degree, he must be matriculated as a student of Rush Medical College and must each quarter secure from the Dean of Medical Students a card of advice as to registration, and must present this card to his own Dean on registering with him.

NOTE.—A student who is taking the Medical Courses with no intention of securing the medical degree may, if he prefers, pay the usual University fee of $60.00 per quarter, with additional laboratory fees as follows:

In Chemistry and all Biological Laboratory courses, $6.00 for a major course and $3.00 for a minor course.

Students taking courses prerequisite for admission to the Medical Courses should consult the *Circular of Information* for the Biological Departments.

(*b*) Students taking two majors or less will pay $25.00 per major. (*c*) All tuition and laboratory fees are due and payable on or before the *first* day of *each quarter*. All fees are payable to the Cashier, Press Building, Room 1.

Registration is not complete until all University bills are paid. Those who fail to meet this obligation within the first five days of the quarter are not regarded as members of the University. After the fifth day, to secure membership in the University, the consent of the Dean and the payment of a fee of $5.00 for late registration will be required.

3. *Laboratory apparatus and supplies.*—(*a*) A compound microscope is required for most of the Medical Courses. Every student is strongly advised to purchase a good microscope, with an immersion lens, in order that he may become familiar with the same instrument which he will use after his graduation. Students not possessing a microscope may rent one from the Laboratory Supply Department at a cost of $2.00 per quarter for a compound microscope and $1.00 additional for an immersion lens. (*b*) All students taking courses in the Department of Physical Culture are required to provide themselves with a gymnasium suit for use in the gymnasium. The cost of such a suit is about $4.00. (*c*) Every student taking a course in the Department of Chemistry is required to obtain and deposit with the Curator a $5.00 coupon ticket to be used in the purchase of necessary apparatus and materials for the laboratory work. A new coupon ticket must be deposited on request of the Curator when materials used and breakage make the replenishment of the deposit necessary, balance of $2.50 being required at all times. No charges are made against these tickets without the knowledge of the student, and the unexpended balance is refunded to the student when he leaves the Department. (*d*) A student taking a course in any of the biological departments is required to obtain a $5.00 coupon ticket for the purchase of apparatus used and materials required in the course. When more than one biological course is taken, a coupon ticket for $10.00 must be purchased by the student. Such coupon ticket must be surrendered and refund of balance due claimed at the end of each quarter, and new coupon ticket be purchased for the succeeding quarter. If, during the quarter, the balance for a single course is reduced to $1.00 or, for more than one course, to $2.00, further deposit of a $5.00 coupon ticket will be demanded by the Laboratory Supply Department. The balance mentioned is intended to serve as a deposit against avoidable loss, breakage, or damage in the laboratories. Each student will be charged for damage or loss for which he is individually responsible and for his pro rata share of damage or loss the responsibility for which cannot be individually located.

The unexpended balance of each biological coupon ticket is refunded to the student shortly after the end of the quarter. (*e*) In addition to the above-mentioned tickets, students registered for courses in Physiology and Physiological Chemistry are required to provide themselves with special supply and breakage tickets, a $5.00 ticket for each course. (*f*) A student may procure a skeleton from the Osteological Laboratory on payment of a deposit of $12.00 for the same, or part of a skeleton on payment of a deposit of $6.00. The deposit will be refunded when the skeleton (or part) is returned uninjured. The necessary textbooks may be purchased at the University of Chicago Bookstore in Ellis Hall.

ROOMS, BOARD, AND GENERAL EXPENSES

The University has thirteen residence halls for students, eight for women and five for men. Rooms in these halls rent for from $30 to $75 a quarter. The rental covers charges for heat, light, and care, except that in Drexel House the rooms are cared for by the students themselves. Rooms are for the most part single, but a few in each Hall may be occupied by two students. Application for rooms should be made to the University Cashier, who will, on request, send a diagram of the Halls showing prices of rooms. Each room is furnished with study-table, chairs, bookcase, bureau, mirror, chamber-ware, rug, bedstead, mattress, and bedding, with the exception that in Hitchcock Hall rugs are furnished by the students and in Drexel House bedding is furnished by the students. Towels must be furnished by the students. Rooms may not be subrented, nor can exchange or transfer of rooms be made except by permission of the Cashier.

A University House is organized in each Hall; each House has a Head, appointed by the President of the University, and a House Committee, elected by the members; also a House Counselor, selected from the Faculties of the University by the members of the House. The membership of the House is determined by election, and each House is self-governing under the general control of the University.

Six of the halls for women (Beecher, Kelly, Foster, Green, Greenwood, and Kenwood) have separate dining-rooms and parlors. The cost of board in these halls is $7.00 per week and board for the entire quarter is payable in advance on the opening day. All students living in these halls are required to take their meals there.

The table below furnishes an estimate of the annual expenses, exclusive of tuition and laboratory fees, for thirty-six weeks, of a student in the University residing within the quadrangles.

	Lowest	Average	Liberal
Rent and care of room	$ 90.00	$144.00	$288.00
Board	231.00	270.00	330.00
Laundry	45.00	60.00	75.00
Textbooks and stationery	30.00	51.00	72.00
Incidentals	45.00	75.00	120.00
Total	$441.00	$600.00	$885.00

An opportunity to share in co-operative housekeeping and thereby to reduce living expenses somewhat is offered at Drexel House, which accommodates sixteen women students who share in the preparation of meals and the care of the House. Room rent for each student is $30.00 a quarter, and the co-operative plan makes the cost of table board considerably less than is possible under other

circumstances. Some experience in housekeeping and adaptability to group life are necessary. Correspondence with reference to rooms in Drexel House should be addressed to the Director of the Housing Bureau.

The University of Chicago maintains its Housing Bureau in order to assist students in finding the best accommodations obtainable in the University neighborhood. All rooms listed have been inspected and certain standards are maintained. Rooms on small inclosed courts are not listed, and all householders registered must rent exclusively to men, or exclusively to women. The use of a reception room at least two evenings a week must be provided for women students. Students are asked to co-operate by insisting on these requirements even if they do not engage their rooms through the Housing Bureau.

Upon arrival at the University, students should apply at once to the Housing Bureau for a list of rooms. Incoming students are especially cautioned against strangers who approach them at the station or on the streets and offer their services in securing rooms. Because of a general scarcity of housing facilities in Chicago at the present time, it is now more difficult to find satisfactory accommodations than was the case in past years.

Students may secure furnished rooms in the neighborhood of the University at prices ranging from $42.00 to $144.00 a quarter, and take their meals at the University or at nearby restaurants. Men occasionally find small rooms or dark rooms for less than $42.00 a quarter, but women usually have to pay $48.00 or more. Not less than $7.00 a week should be allowed for table board, and one can seldom find a room with outside light, drop light, study table, ample closet space, and a comfortable bed for less than $60.00 a quarter.

Desirable furnished rooms for light housekeeping are difficult to find. They range in price from $25.00 to $50.00 a month. The so-called kitchenettes in buildings in the vicinity of the University are small, usually dark, rooms with a kitchen table and gas plate, but never with running water. Rooms with kitchen privileges may be secured at the regular room rates with an additional charge of about $6.00 per quarter.

Furnished houses or apartments of from four to ten rooms vary in price from $50.00 to $150.00 per month. In the University neighborhood there are very few two- or three-room apartments and their rental, unfurnished, is $35.00 a month or more. The Housing Bureau lists only furnished houses and apartments.

Lists of rooms may be obtained at the office, Room 1, Press Building, about one week before the opening of each quarter. Lists should be obtained in person at this office. Renting by mail is not satisfactory and students are advised against it.

Board at the University may be obtained at Hutchinson Commons, the Ida Noyes refectory, and the Emmons Blaine lunch-room. Cafeteria service is provided, the cost of meals averaging about $7.00 per week.

GENERAL INFORMATION FOR STUDENTS ENTERING THE JUNIOR AND SENIOR CLASSES AT RUSH MEDICAL COLLEGE

Attendance.—In order to be credited properly with attendance on any given term or course, it is imperative that students be present at the opening of each quarter *After the second day of any quarter no student can register except by*

special consent of the Dean and the payment of $5.00 late registration fee. At least 80 per cent of any quarter or of the scheduled hours in any course for which a student is registered must be attended in order to receive credit for the course.

Matriculation.—Each student matriculates on entering the College for the first time, but not for subsequent quarters. Matriculation may be accomplished by mail.

Registration.—Each student registers before or at the beginning of each quarter by paying the tuition fee for the quarter and filing a registration card.

In case of early registration this card is retained at the Registrar's office and *must be reclaimed by the student in person on the first or second day of the quarter. If not reclaimed at that time, the student's registration for the quarter will be canceled, and can only be restored by the consent of the Dean and the payment of $5.00 late registration fee.*

A student, upon entering the College, at the beginning of his first quarter will procure from the Registrar a blank application for admission, fill out the same carefully, and return it to the Registrar, with the matriculation fee, for which he will receive a receipt.

The student will then present himself to the Dean of Students and exhibit to him the credentials for admission to advanced standing (see requirements for admission to advanced standing, p. 31).

The Dean will issue a card certifying admission to the proper class and will advise respecting the courses of study to be taken.

College fees.—(1) Matriculation fee, $5.00, payable but once. (2) Tuition for each quarter, $75.00. (3) A compound microscope is required for some of the clinical courses. Every student is strongly advised to purchase a good microscope, with an immersion lens, in order that he may become familiar with the same instrument which he will use after his graduation. Students not possessing a microscope may rent one from the College at a cost of $1.50 per quarter for a compound microscope and $1.00 additional for an immersion lens. Each student is required to secure, for use in the clinical laboratories, a hemacytometer (cost, about $16.00) and a hemoglobinometer or a Talquist scale. (4) A fee of $20.00 is paid for the out-patient obstetrical work. (5) No student can be assigned to any college work until his fees are paid. (6) The annual ticket for the County Hospital is $5.00, which is procured from the Warden at the Hospital.

Deposit.—A deposit of $5.00 is required from each student to cover the cost of unnecessary damage in the College buildings and of avoidable loss and breakage in the laboratories. Deductions will be made from this deposit to cover the cost of articles not returned or of damage to College property. Each student will be charged for damage or loss for which he is individually responsible and for his pro rata share of damage or loss, the responsibility for which cannot be individually located. The deposit must be made on entering the College.

PHYSICIAN'S FEE

Graduates of this College are admitted to all lectures upon the payment of the annual fee of $5.00. Graduates of other colleges, attending the full course, will pay the fees of undergraduate students, or a physician may pay $25.00 per month, which entitles him to attend undergraduate courses offered for that period.

The number of persons who may register for some courses is limited. No student or practitioner is admitted to such course beyond the limit specified.

Graduates of this or other colleges who are visiting the city for a brief time are cordially welcomed, but are required to procure complimentary tickets at the office.

No one is authorized to make any modification of the terms regarding fees. On financial matters the Registrar, who represents the Comptroller at the College office should be consulted.

The right is reserved to make changes in the fees, curriculum, or in any other matter at any time.

Schedule of lecture hours.—Schedules are issued from the College office giving the time of each exercise.

Board and lodging.—Rooms may be obtained in the vicinity of the College at from $3.00 to $5.00 per week. Day board may be had at from $7.00 to $9.00 per week. Board and room together may be obtained at from $10.00 to $14.00 per week. A Bureau of Information is maintained at the College by the Y.M.C.A., to which students may apply for directions as to desirable board and lodging.

Books and instruments.—The average annual cost of the required books and instruments varies from $50.00 to $80.00.

The following table will furnish an estimate of the expenses of a student for each year at Rush Medical College:

	Lowest	Average	Liberal
Tuition for each year	$225.00	$225.00	$225.00
Board and room	350.00	420.00	500.00
Laundry	40.00	52.00	65.00
Books and instruments	50.00	65.00	80.00
Incidental expenses	60.00	100.00	140.00
Total	$725.00	$862.00	$1,010.00

THE YOUNG MEN'S CHRISTIAN ASSOCIATION

A branch of the Young Men's Christian Association is in active operation at Rush Medical College, and the headquarters of the West Side Association are situated within a short distance of the College buildings. Membership in the Association, with the privilege of gymnasium, bathrooms, lecture courses, etc., may be obtained through the Rush Medical branch at reduced prices. Further information in regard to the Association may be obtained by application to the Rush Medical branch of the Association.

THE QUARTER SYSTEM

The academic year is divided into four quarters. The Summer Quarter is divided into two terms. The year begins with the first day of the Summer Quarter.

The Autumn Quarter begins on October 1, except when this day falls on Sunday, when it begins on October 2; and it ends December 23, except that when this day falls on Saturday or Sunday it ends the preceding Friday (for the clinical

courses, Saturday); and when December 23 falls on Monday it ends the preceding Saturday.

The Winter Quarter begins January 2, except when this day falls on Saturday or Sunday, when it begins the Monday following; and it ends on the Friday falling between March 18 and March 24 inclusive (for the clinical courses, Saturday).

The Spring Quarter begins on the Monday falling between March 28 and April 3 inclusive, and ends on the Friday falling between June 12 and 18 inclusive (for the clinical courses, Saturday).

The Summer Quarter begins on the Monday falling between June 15 and 21 inclusive, and ends on the Friday falling between August 28 and September 3 inclusive (for the clinical courses, Saturday).

Official University Holidays are observed on Washington's Birthday, Memorial Day, Independence Day, and Thanksgiving Day. When one of these days falls on Sunday, the following Monday shall be observed as a holiday only in the case of Memorial Day and Independence Day.

THE MEDICAL CURRICULUM AS RELATED TO THE QUARTER SYSTEM

The general course of instruction in Rush Medical College requires four years of study in residence, with a minimum of attendance upon three quarters of each year. These years are designated as the Freshman, Sophomore, Junior, and Senior years, respectively.

A student may begin his college work on the first day of any quarter (see, however, p. 41, § 5), and may continue in residence for as many successive quarters as he desires, and will receive credit for work accomplished. Attendance during all the four quarters of the year is optional, but will not secure a time credit of more than one year in a medical school. At least fifty-two months must elapse between the date of the first matriculation and the date of graduation. Under the restriction imposed this system does not conflict with the existing medical-practice acts, nor with the rulings of the various state boards of medical examiners.

THE SUMMER QUARTER

Attention is directed to the special opportunities afforded for medical study in the Summer Quarter. The climate of Chicago is particularly well adapted to midsummer work. Instruction in all departments is given in the Summer Quarter.

DEFINITION OF MAJOR AND MINOR

A Major course is defined as a didactic or recitation course, occupying 5 hours a week for one quarter (a total of 60 hours), or a laboratory, practical, or clinical course, occupying 10 hours a week for one quarter (a total of 120 hours). A double major occupies twice the number of hours per week for the quarter.

A Minor course is a didactic or recitation course, occupying 5 hours a week for one-half a quarter, or six weeks; or a laboratory course, occupying 10 hours per week for a similar period. The value of each course in the following depart mental statements is stated as a *major* (Mj.), a *double major* (DMj.), a *minor* (M.), a *double minor* (DM.), or the decimal fraction of a *major* or *minor*.

GRADUATE COURSES IN MEDICINE FOR PHYSICIANS AND ADVANCED STUDENTS

Opportunities are afforded to physicians and graduate students at Rush Medical College and at the University for advanced and research work in Physics, Chemistry, Zoölogy and Embryology, Anatomy, Neurology, Psychology, Physiology, Physiological Chemistry, and Pharmacology, and in Pathology and Bacteriology in Medicine, Surgery, Obstetrics, Gynecology, and in the other clinical departments. Research work may be conducted independently or under the direction of an instructor in the department to which it belongs.

Physicians are admitted on payment of the matriculation fee and payment of fees in proportion to the amount of work taken (see p. 37). The applicant's fitness for any course which he desires to take should be ascertained by consultation with the heads of the respective departments.

All of the courses offered are well adapted to students of this class, and they are outlined in pp. 45–90 of this *Circular*. Correspondence is invited in reference to special work other than the courses offered. It will be sufficient to address letters in reference to such courses to Rush Medical Colleges. Undergraduates are given preference in registering for courses which are restricted to a small group of students.

Students desiring to engage in work leading to the degrees of Master of Science, Master of Arts, Master of Philosophy, or to the degree of Doctor of Philosophy are requested to write for the *Circular of Information* of the Graduate Schools of Arts, Literature, and Science of the University of Chicago.

THE WORK OF THE MEDICAL COURSE FOR THE FRESHMAN AND SOPHOMORE YEARS

1. *Outline of the course.*—The course for the first two years' work in Medicine consists mainly of instruction in the fundamental medical sciences: Human Anatomy, Microscopic Anatomy, Histology, Neurology, Embryology, Physiology, Physiological Chemistry, Toxicology, Pharmacology, Bacteriology, and Pathology. All this work is given at the University of Chicago.

2. *Amount of work.*—The amount of work required is 18 majors.

3. *The curriculum.*—The following courses constitute the curriculum recommended for an pursued by the majority of the students:[1]

a) *Chemistry*, The Chemistry of Medicinal Drugs, ½ major (85).[2]

b) *Anatomy*, 6½ majors as follows: Human Anatomy (Dissecting), 3½ majors (1, 2, 3, 4); Splanchnology, Histology, and Cytology, 1 major (10); Embryology, 1 major (Zoölogy 20 or 21); Neurology, 1 major (Anatomy 17).

c) *Physiology*
d) *Physiological Chemistry and Pharmacology* } 6 majors as follows: Physiology, 3 majors (12, 13, 14); Physiological Chemistry, 2 majors (19 and 20); Pharmacology, 1 major (21).

e) *Pathology*, 2 majors as follows: Pathology (1 and 2).

[1] Detailed statements concerning the courses are given under the various departments of instruction. They should be consulted in every case *in regard to equivalent courses which may be submitted for those whose numbers are given in the foregoing schedule.*

[2] The numbers in parentheses refer to the course numbers in the corresponding department.

f) Hygiene and Bacteriology, 1½ majors as follows: Bacteriology (2B).

g) Two majors in any branch or branches of the student's choice, as approved by the Faculty.

4. *Election of medical courses.*—Students with adequate preparation and special qualifications are permitted to elect other courses (usually advanced or research work) in lieu of some of those above presecribed.

In electing his work the student should bear in mind: (*a*) that the right of election must be confirmed in writing in advance by the Dean and by the head of the department concerned; (*b*) that his registration for each quarter must receive the approval of the Dean; (*c*) that the prerequisites for any course must have been satisfied before the course can be elected; (*d*) that a minimum amount of work in the several branches is required for graduation in Medicine.

5. *Arrangement of courses.*—The order of courses has been arranged in such a way as to insure so far as possible for the student beginning his medical studies with any single quarter of the year a complete annual course during any three consecutive quarters; *but students must begin their medical work proper with the Autumn or Spring Quarter.*

ARRANGEMENT OF COURSES FOR SIX QUARTERS

Many of the required medical courses are given twice or, including the Summer Quarter, three times in one year. The fifteen majors of required and three majors of elective work may be taken in any order or combination desired by the student, provided he has the necessary preparation for each course when taken, as indicated by the prerequisite courses.

The sequence of courses recommended for the student during the six quarters of the Freshman and Sophomore years of the Medical Curriculum is indicated in the appended outline. In case the student is unable to secure the group of courses recommended for any quarter in his sequence, courses which may be taken as alternatives are indicated in italics.

FIRST QUARTER

Recommended:
- Dissection, 1½Mjs., Anatomy 1, 2
- Histology, Mj., Anatomy 10
- Elective, ½Mj.

Permissible:
- *Embryology, Mj., Zoölogy 20*
- *Anatomy 11, 12, Mj.*
  - *Prerequisite: Anatomy 10*
- *Physiological Chemistry 19, Mj.*

SECOND QUARTER

Recommended:
- Dissection, Mj., Anatomy 3 or 4
- Physiological Chemistry, Mj., Physiology 19
  - Prerequisite: Organic Chemistry
- Elective, Mj.

Permissible:
- *Embryology, Mj., Zoölogy 20*

THIRD QUARTER

Recommended:
- Embryology, Mj., Zoölogy 20
- Dissection, Mj., Anatomy 3 or 4
- Physiology, Mj., Physiology 12
  - Prerequisite: Physiological Chemistry 19
- Bacteriology, 1½Mjs., Bacteriology 2B
  - Prerequisite: Physiological Chemistry 19

Permissible:
- *Physiological Chemistry 20, Mj.*
  - *Prerequisite: Physiological Chemistry 19*
- *Bacteriology 2B, 1½Mjs.*
- *Elective, Mj.*

FOURTH QUARTER

Recommended:
Neurology, Mj., Anatomy 17
Prerequisite: Histology
Physiology, Mj., Physiology 13
Prerequisite: Physiology 12
Physiological Chemistry, Mj., Physiology 20
Prerequisite: Physiological Chemistry 19
Pathology, Mj., Pathology 1
Prerequisite: Bacteriology 2B

Permissible:
Pathology 1, Mj.
Physiology 14, Mj.
Prerequisite: Neurology
Elective, Mj.

FIFTH QUARTER

Recommended:
Physiology, Mj., Physiology 14
Pharmacology, Mj., Physiological Chemistry 21
Prerequisite: Physiology 12, 13, 14; Physiological Chemistry 19 and 20
Pathology, Mj., Pathology 1
Permissible:
Pathology 2, Mj.
Prerequisite: Pathology 1
Elective, 1 or 2 Mjs.

SIXTH QUARTER

Recommended:
Pathology 2, Mj.
Chemistry 85, Mj.
Permissible:
Elective, 1 or 2 Mjs.

Students are strongly advised to take Histology and Embryology as part of the college work required for admission. It is of decided advantage to complete these courses before beginning Gross Anatomy (Dissection).

Organic Chemistry is an entrance requirement and is not considered as a course in Medicine.

THE WORK OF THE CLINICAL YEARS

Elective and optional courses.—A certain number of courses, especially in the Freshman and Sophomore years of study, are required as essential to securing credit in making up the four-year curriculum which must precede graduation. All of the courses offered in the Junior and Senior years are elective; that is, the student will be required to select from the list of elective courses a number sufficient to insure him credit for about eleven majors each year. The term "major" is fully explained in another paragraph. By this system the student can select not only his line of study, but also his teachers in such special lines, and can, further, so arrange his work that in successive years he can practically include all branches taught in the College. He will be required to present, however, a minimum amount of credit in each department. See requirements for graduation (p. 31).

Advice by the head of each department as to the recommended sequence of courses is contained in a circular of information issued to each student at the beginning of the Autumn Quarter.

The quarter system with elective courses is especially well adapted to the medical curriculum, and possesses the advantages of allowing each student to select a portion of his studies, and so to adapt his course to his tastes, his abilities, and his needs. The plan is *not* designed, however, to enable a student to prepare for a special line of practice. A broad and thorough education in general medicine is essential for adequate preparation for special practice in later years.

Optional courses, in addition to those described above, are offered to students who desire to add to the regular courses as outlined in the requirements for graduation. These optional courses are designed to promote a higher scholarship and to increase facilities for work in special departments.

FIFTH YEAR

A FIFTH YEAR IS NOW REQUIRED FOR GRADUATION.

The work of this fifth year consists of:

A. An interneship in a hospital approved by the Faculty and taken under condition prescribed by the Faculty, or

B. Advanced work as a Fellow or Research Student in one of the departments of the College, including clinical work, with the presentation of a dissertation embodying original work.

INFORMATION, RULES AND REGULATIONS APPERTAINING TO THE FIFTH OR INTERNE YEAR

GENERAL

1. For students who enter the medical school with the Summer Quarter of 1914 or thereafter a fifth year is required for graduation, consisting of an interneship in a hospital approved by the Faculty, and taken under conditions prescribed by the Faculty.

2. On successful completion of the first four years including the usual final examinations the student receives a certificate only, which qualifies him to enter upon the work of the fifth year. On completing successfully the fifth year he will be entitled, on recommendation of the Faculty, to the diploma conferring upon him the degree of Doctor in Medicine.

3. Every student must secure an interneship by examination or appointment and must notify the Dean of Students *within four days after entering the hospital on special blank supplied for this purpose.* Before making application for such interneship the student should determine whether the hospital contemplated is on the approved list of hospitals as posted in the office of the Dean. If it is not, he should submit to the Dean of Students a request for action by the Committee on Fifth Year as to whether or not that hospital will be approved.

4. All internes during their service shall be under the supervision of the Committee on Fifth Year, aided by such members of the Faculty as the Committee may select to act as "supervisors."

INTERNES

5. Each interne shall be assigned to a supervisor and shall be required, wheresoever he may be taking his interneship, to report to his supervisor as set forth herewith: (*a*) Immediately upon receiving notification from the Committee on Fifth Year of his assignment to a supervisor he shall communicate with the latter in writing, giving the date of the beginning of his interneship, the service entered upon, the name of the hospital superintendent, and the names of his first attending men. He shall also see that the name of his supervisor is given to the hospital superintendent and to these attending men, and subsequently to other attending men as he shall come into relationship with them. (*b*) Thereafter the interne shall report in writing to his supervisor every *two months.* These bi-monthly reports shall include a reasonably detailed account of his hospital work to date, and the names of any new attending men under whom he may have come by change of services.

6. If, at any time during the hospital service, the interne is confronted with a problem which might affect his fifth year standing and upon which he feels the

need of advice and counsel, he shall communicate with his supervisor who will give the matter immediate consideration and if necessary will bring it at once to the attention of the Committee on Fifth Year.

7. An interne will be expected to conform to the rules for the conduct of internes prescribed by the hospital in which he is serving.

7. The attention of the internes is called to the clause in the catalog of of the College under "Requirements for Graduation," which states that the candidate for a degree "must have maintained unexceptionable conduct while at the College." This is and will be construed to include all fifth year internes wheresoever they may be taking their fifth year work.

9. An interne abandoning, without the consent of the hospital authorities, an interneship which he has accepted, shall be denied his degree unless he satisfies the Faculty that there were valid and ample reasons for his leaving said interneship.

10. A student may, at the discretion of the Committee on Fifth Year, be required to pass an examination at the end of his term of service as interne.

11. The student shall be required to be present at the Convocation when his degree is to be conferred unless the Faculty grants his request that the degree be conferred *in absentia.*

12. A copy of this circular will be given each student entering the fifth year work, which copy he shall keep for future reference.

SUPERVISORS

13. The Committee on Fifth Year, appointed by the Faculty, shall have charge of the supervision of the work of the fifth year internes, shall determine the quality of that work, and shall judge whether the interne is entitled to be recommended to the Faculty for the degree of Doctor in Medicine at the end of his service.

14. The Committee on Fifth Year shall appoint "supervisors" from the Faculty, or when deemed advisable, from the attending staff of the hospital in which the interne is serving.

15. One or more internes shall be assigned to each supervisor who shall be notified at once of such assignment or assignments by the Secretary of the Committee on Fifth Year. The supervisor should, if possible, have a personal interview with the students assigned to him, before they enter upon their interne service.

16. Where possible the supervisor shall visit, for purposes of supervision and inspection, the hopsital or hospitals where the internes under him are serving.

17. The supervisor shall require each interne under him to carry out the provisions relative to reports in paragraph 5 above, and shall communicate with and secure reports from hospital superintendents and attending men as to the quality of work done by said interne, using the blanks provided for that purpose.

18. He shall make quarterly individual reports on the work of the internes under him to the Committee on Fifth Year on blanks provided for that purpose, and shall make such comments and recommendations based on the reports received by him as will aid the Committee in each instance to act intelligently and justly in recommending to the Faculty whether a degree is to be granted, an examination required, or a degree deferred or denied.

19. The supervisor will be expected also to serve the internes under him in the capacity of counselor and helper. He shall give careful attention to and promptly answer all communications from internes requesting advice; and, if in doubt as to the course of action to recommend, shall place the matter at once before the Committeee on Fifth Year through the Secretary of that body.

20. The supervisor shall keep all correspondence, reports, etc., relative to each interne on file; shall be ready at any time on request to turn the same over to the Committee on Fifth Year, and at the end of the interne's year shall deliver intact to the Committee all such correspondence, reports, etc., that may remain in his hands.

21. A copy of this circular shall be sent each supervisor with his first notification of interne assignment, which copy he should file for future reference.

22. The list of approved hospitals is made up of those which meet the requirements laid down by the Faculty as to size, equipment, services, staff, etc., and which in their judgment offer an adequate interneship for fifth year students. This list is subject to additions and changes at any time.

23. The list of approved hospitals corrected to date will be found posted in the office of the Dean.

Communications which are to be referred to the Committee on Fifth Year should be addressed to the Secretary, Dr. Robert H. Herbst, Rush Medical College, Chicago.

I. THE DEPARTMENT OF ANATOMY

(INCLUDING, AT THE UNIVERSITY, COURSES IN THE DEPARTMENT OF ZOÖLOGY)

OFFICERS OF INSTRUCTION

Robert Russell Bensley, A.B., M.B., Professor of Anatomy.
Charles Judson Herrick, Ph.D., Professor of Neurology.
Basil Coleman Hyatt Harvey, A.B., M.B., Professor of Anatomy.
Preston Kyes, A.M., M.D., Professor of Preventive Medicine.
George William Bartelmez, Ph.D., Associate Professor of Anatomy.
Charles Henry Swift, M.D., Ph.D., Assistant Professor of Anatomy.
Clark Owen Melick, S.B., Instructor in Preventive Medicine.
Marion Hines, A.B., Ph.D., Instructor in Aantomy.
Richard W. Watkins, S.B., Instructor in Anatomy.
Frederic Max Nicholson, S.B., Associate in Anatomy.
Jeannette Brown Obenchain, Ph.B., Research Assistant in Anatomy.

FELLOW

Lois D. Green, A.B.

INTRODUCTORY

The Department of Anatomy is organized to provide for instruction and research invertebrate anatomy, including human anatomy, histology, embryology, and neurology. Two majors of elementary biology (Zoölogy 1 and Botany 1, or their equivalent) are prerequisite for all courses in the Department except course 16.

Students of medicine and other students desiring to study anatomy are strongly recommended to plan their work so that courses in vertebrate anatomy (Zoölogy 17) and vertebrate embryology precede the work in human anatomy. The recommended order of courses in preparation for work in human anatomy would thus be as follows: Zoölogy 1, Botany 1, Zoölogy 17, Anatomy 10, and Zoölogy 20.

All students taking courses in Anatomy should have a good knowledge of French and German. For graduate students this is indispensable.

UNDERGRADUATE SEQUENCES

I. PRINCIPAL SEQUENCES

Zoölogy 17, Zoölogy 20, Anatomy 1, 2, 3, 4, 10, 11, 17, 21.

II. SECONDARY SEQUENCES

Zoölogy 17, Zoölogy 20, Anatomy 10, and three majors selected from Anatomy 1, 2, 3, 4, 17, 21.

CANDIDACY FOR HIGHER DEGREES

All candidates for the degree of Doctor of Philosophy in Anatomy should have undergraduate credit for courses 1, 2, 3, 4, 10, 17, or their equivalent. Graduate courses will be selected after consultation with the Department.

Candidates for the degree of Master of Science in Anatomy are required to take courses in Anatomy amounting to nine majors, of which three majors must be in research work chosen from courses 28, 29, 30, 32, 41, 42, 43.

COURSES OF INSTRUCTION

I. SENIOR COLLEGE COURSES

1, 2, 3, 4, Human Dissection.—The student makes a complete dissection of all structures, using atlases and textbooks as guides. The work is largely independent. Before receiving credit for his final dissection the student will be required to pass an oral examination on the anatomy of the whole body. Laboratory fee, $6.00 per major. Lectures, 2:30, M., W., F.; laboratory work, 2:30–5:30, M. to F. 3½ Mjs. Autumn, Winter, Spring, Professor Harvey and Assistant Professor Swift.

Courses 1 and 2.—Dissection of upper and lower extremities. 1½Mjs.
Course 3.—Dissection of thorax and abdomen. 1Mj.
Course 4.—Dissection of head and neck. 1Mj.

10. Histology.—A brief course on the structure of the cell and elementary tissues will be followed by a systematic study of the structure of organs. Laboratory fee, $6.00. Mj. 8:00–10:00, M.–F., Summer, Mr. Watkins; Autumn, Associate Professor Bartelmez, Dr. Hines, and Mr. Watkins; Winter, Mr. Watkins.

11, 12. Advanced Histology.—Laboratory fee, $6.00. Mj. Autumn and Winter, Professor Bensley.

16. Elementary Neurology.—Prerequisite: for undergraduate students, elementary biology or human physiology with laboratory work; graduate students may be admitted without this prerequisite. Medical credit in neurology is not given for this course. Mj. Autumn and Summer, 8:00–10:00, M.–F., Professor Herrick.

17. Anatomy of the Nervous System.—An introductory course for medical students and others. Prerequisite: course 10. Laboratory fee, $6.00. Mj. Summer, Autumn, and Winter, Professor Herrick, Associate Professor Bartelmez, and Dr. Hines.

18. Advanced Neurology.—Lectures and laboratory work on subjects to be determined by the requirements of the class. Prerequisite: Course 16 or 17, Laboratory fee, $6.00. Mj. Spring, PROFESSOR HERRICK.

19. Cytology of Nerve Cells.—Hours to be arranged. Mj. or ½Mj. Winter, ASSOCIATE PROFESSOR BARTELMEZ.

20. Development of the Skeleton.—Hours to be arranged. ½Mj. Spring, ASSOCIATE PROFESSOR BARTELMEZ.

21. Morphology of the Blood.—Mj. or ½Mj. Winter and Spring, DR. HINES.

22. Anatomy of the Foetus and Infant.—Mj. or ½Mj. Autumn, Winter, and Spring, ASSISTANT PROFESSOR SWIFT.

23. Anatomy of the Sense Organs.—Prerequisite: Course 10. Mj. or ½Mj. Spring, MR. WATKINS.

II. GRADUATE COURSES

25. Comparative Neurology.—The evolution of the architecture and function of the vertebrate nervous system. Prerequisite: Course 16 or 17. Mj. Spring, PROFESSOR HERRICK.

28, 29, 30. Neurological Research.—Admission to these courses may be obtained only after consultation with the Professor of Neurology. A good knowledge of general anatomy, physiology, and neurology will be required. 3Mjs. or 3DMjs. Autumn, Winter, Spring, and Summer, PROFESSOR HERRICK.

31. Immunology.—Consideration of susceptibility and resistance to disease with special reference to the mechanism of host defense in the bacterial infections. Mj. or DMj. Autumn and Spring, PROFESSOR KYES AND MR. MELICK.

31A. Immunology.—Continuation of course 31 with special reference to the qualitative and quantitative toxins and to immune sera. Mj. or DMj. Winter and Summer, MR. MELICK.

32. Research in Immunology.—Mj. or DMj. Autumn, Winter, Spring, and Summer, PROFESSOR KYES AND MR. MELICK.

34. Origin and History of the Germ Cells.—Mj. or ½Mj. Spring, DR. SWIFT.

37. Introduction to Research in Anatomy.—Mj. Spring, PROFESSOR BENSLEY.

38. Morphology of the Blood and Blood-forming Organs.—Prerequisite: course 27, or equivalent. Mj. or ½Mj. Spring, DR. HINES.

39. Organogeny (Human).—A practical course on the development of organs in the human embryo. Prerequisite: Vertebrate Embryology. Laboratory fee, $6.00. Mj. Spring, ASSOCIATE PROFESSOR BARTELMEZ.

40. Advanced Work.—Opportunities are afforded for advanced work in all branches of anatomy. Laboratory fee, $6.00 per Mj. PROFESSOR BENSLEY, PROFESSOR HERRICK, PROFESSOR HARVEY, AND OTHERS.

41, 42, 43. Research Work.—The laboratory is equipped for the investigation of anatomical problems. Suitably trained persons, who have the time to do such work, will be encouraged to undertake it. PROFESSOR BENSLEY, PROFESSOR HARVEY, ASSOCIATE PROFESSOR BARTELMEZ, AND ASSISTANT PROFESSOR SWIFT.

45, 46, 47. Seminar.—A limited number of students may, by arrangement with the Professor of Anatomy, be admitted to a seminar in which subjects of current interest in anatomy will be discussed. ½Mj. Autumn, Winter, and Spring, PROFESSOR BENSLEY AND ASSISTANT PROFESSOR SWIFT.

49, 50, 51. History of Anatomy.—½Mj. Autumn, Winter and Spring. ASSISTANT PROFESSOR SWIFT.

THE DEPARTMENT OF ZOÖLOGY

OFFICERS OF INSTRUCTION

FRANK RATTRAY LILLIE, PH.D., SC.D., Professor of Embryology and Chairman of the Department of Zoölogy.

Charles Manning Child, Ph.D., Professor of Zoölogy.
Horatio Hackett Newman, Ph.D., Professor of Zoölogy.
Warder Clyde Allee, Ph.D., Assistant Professor of Zoölogy.
Carl Richard Moore, Ph.D., Instructor in Zoölogy.
Albert W. Bellamy, Ph.D., Instructor in Zoölogy.
Benjamin H. Willier, Ph.D., Instructor in Zoölogy.
Libbie Henrietta Hyman, Ph.D., Research Assistant in Zoölogy.
James William Buchanan, S.B., Assistant in Zoölogy.
James Nelson Gowanlock, S.B., Assistant in Zoölogy.
Kellogg F. Bascom, S.M., Assistant in Zoölogy.

FELLOWS, 1921–22

Kellogg Finley Bascom, O.M.
Jacob Martin Essenburg, S.B.
Pranis Baltras Sivickis, A.B.

INTRODUCTORY

The courses in Zoölogy aim to meet the needs of those students who desire to obtain some knowledge of Zoölogy as part of their general education, those who need work in Zoölogy to satisfy the requirements of other departments, and those who propose to specialize in Zoölogy. The leading purpose of the courses is to present the subject-matter of the science, its guiding ideas, its principal subdivisions, its scope, methods, and history, and its relations to other sciences.

Undergraduate work in Zoölogy.—It is advisable that students who propose to *specialize* in Zoölogy should obtain a broad scientific foundation, including work in the cognate sciences, and a reading knowledge of French and German. More specifically, students specializing in Zoölogy should take 4 or 5 majors in Chemistry, 2 or 3 in Physics, and 1 or 2 in Geology; they should also obtain knowledge of the general principles of microscopical Anatomy, Paleontology, Botany, and Physiology. These courses may be taken concurrently with the work in Zoölogy. Consultation with reference to the sequence of courses taken in the Department is required. (See the *Undergraduate Course Book.*)

COURSES AVAILABLE FOR UNDERGRADUATE SEQUENCES

For students who have had less than a unit of Zoölogy in high school, course 1 is prerequisite for all courses except 5. Students presenting credits for one unit of Zoölogy in high school may begin with course 15, but will be required to supplement their sequence by taking course 5. Courses 15, 16, and 17 may be taken in any order.

SECONDARY SEQUENCE

5, 7 or 15, 16, 17, 18, 19.

PRINCIPAL SEQUENCES

a) General: Secondary sequence, with the addition of 3 majors selected from courses 21–35. This sequence is intended primarily for teachers in the secondary schools.

b) Genetics and Experimental Zoölogy: Secondary sequence, with 3 majors from courses 30–35.

c) Ecology and Behavior: Secondary sequence, with the addition of courses in 24, 25, and 26.

COMBINATION NINE-MAJOR SEQUENCES

a) Zoölogy-Botany: Zoölogy 5, 7, 16, 17, 20 and Botany 2 or 3, 7, 8, and 9.

b) Comparative Anatomy: Zoölogy 15, 16, 17, 18, 19, 21; Anatomy 10, 1, 2, 3.

Graduate work in Zoölogy.—Students proposing to undertake graduate work in Zoölogy should have credit for an undergraduate principal sequence in Zoölogy or its equivalent. They should also be grounded in other sciences as noted above; and a reading knowledge of German and French is required for candidacy for the degree of Doctor of Philosophy. The plan of the graduate courses involves three or four majors of formal courses and three majors or more of seminar courses in addition to research work in the Department. Certain courses from other departments depending on the student's preparation are also required. For the degree of Doctor of Philosophy the research work will usually extend over a period of three years. For the Master's degree Zoölogy 1, 5 or 7, 15, 16, and 17, or their equivalent, eight majors of graduate work, and a dissertation are required.

The Zoölogical Club.—The members of the staff and the advanced students of the Department form a club which meets weekly for the presentation of the research work of members of the Department and for review and discussion of important new literature. The meetings are open to all students in the Department.

COURSES OF INSTRUCTION

Zoölogy 1 or its equivalent is prerequisite for all the Senior College courses in the Department. But course 5 or 7 may be accepted as its equivalent for advanced work in the Department at the option of the instructor offering advanced courses.

I. JUNIOR COLLEGE COURSES

NOTE.—For hours see "Tabular View of Courses," p. 00.

1. Elementary Zoölogy.—Lectures and laboratory work constituting an introduction to the general principles and concepts of Zoölogy. Laboratory fee, $6.00. DM. Summer, First Term, MR. BUCHANAN; Mj. Autumn, sec. *a*, ASSISTANT PROFESSOR ALLEE; sec. *b*, PROFESSOR NEWMAN; Winter, ASSISTANT PROFESSOR ALLEE.

5. Evolution, Genetics, and Eugenics.—An elementary course dealing with the history and principles of Evolution and Genetics and their application to modern experimental evolution and eugenics. Lectures, reading, and recitations. Mj. Summer, Autumn, DR. BELLAMY; Spring, PROFESSOR NEWMAN.

7. Field Zoölogy.—An introduction to local animal life based upon classification, distribution and natural history of invertebrates. Laboratory fee, $6.00. Mj. Spring; DM. Summer, 1922, First Term, ASSISTANT PROFESSOR ALLEE.

II. SENIOR COLLEGE COURSES

NOTE.—Courses 15, 16, and 17 constitute a sequence running through the year. In special cases students who have credit for Botany 1, or who have studied Zoölogy in high school, may be admitted to the sequence without other prerequisites. Permission for such registration must be secured from the Department.

15. Invertebrate Zoölogy.—Study of representatives of the lower invertebrate groups, including the anatomy of the adult and the life-history, together with some discussion of the habits and distribution. Prerequisite: Zoölogy 1, or equivalent. Lectures, laboratory work, and demonstrations. Laboratory fee, $6.00. DM. Summer, First Term; Mj. Autumn, PROFESSOR CHILD.

16. Invertebrate Zoölogy.—Comparative anatomy, development, and phylogeny of invertebrate groups not considered in courses 1 or 15. Prerequisite: Zoölogy 1, or equivalent. Laboratory fee, $6.00. DM. Summer, Second Term, Dr. Willier; Mj. Winter, Professor Newman.

17. Vertebrate Zoölogy.—Comparative anatomy, development, and phylogeny of vertebrates. Prerequisite: Zoölogy 1, or equivalent. Laboratory fee, $6.00. DM. Summer, Second Term, Professor Newman; Winter, sec. *a*, Dr. Moore; sec. *b*, Professor Newman; Spring, Professor Newman.

18. Embryology.—The early stages of development of invertebrates and vertebrates, including maturation and fertilization of the ovum, cleavage, and the formation of the germ layers; origin of the embryo. Embryological theories. Embryological technique. Prerequisite: Zoölogy 15, 16, 17, or their equivalents. Laboratory fee, $6.00. Mj. Autumn, Professor Lillie.

19. Embryology.—Continuation of course 18. Later development, especially of vertebrates. Prerequisite: Zoölogy 18. Laboratory fee, $6.00. Mj. Winter, Professor Lillie.

20. Vertebrate Embryology (for medical students).—Birds and mammals. Lectures, demonstrations, and laboratory work. Prerequisite: Zoölogy 1 and 17, or their equivalents. Laboratory fee, $6.00. Mj. Summer, Autumn, Dr. Moore; Mj. Spring, Professor Lillie, Dr. Moore, and Assistants.

21. Comparative Histology.—The structure of tissues as related to their function and ontogenetic development, especially of invertebrates. Principles and methods of histological technique. Prerequisite: Zoölogy 15 and 16, or their equivalents. Laboratory fee, $6.00. Mj. Summer, Spring, Dr. Willier.

24. Animal Ecology.—Origin and evolution of animal communities with particular reference to those found in the Chicago area. Prerequisite: Zoölogy 7 or equivalent. Laboratory fee, $6.00. Mj. Autumn, Assistant Professor Allee.

25. Animal Geography.—A study of the world-distribution of animals together with factors causing and limiting distribution. Lectures, conferences, and assigned topics. Prerequisite: Zoölogy 1 or 7. Mj. Winter, Assistant Professor Allee.

26. Animal Behavior.—Analysis of animal activities with reference to the physiology and distribution of animals in general but with particular emphasis upon invertebrates and lower vertebrates. Prerequisite: Zoölogy 1 or 7. Laboratory fee, $6.00. Mj. Spring; DM. Summer, 1922, Second Term, Assistant Professor Allee.

27. Parasitology.—The biology, anatomy, and life-histories of animal parasites, including those productive of human disease. Prerequisites: two majors of Zoölogy. Laboratory fee, $6.00. Mj. Winter, Dr. Willier.

30. Genetics and Experimental Evolution.—A variety of organisms are used in the course to illustrate the principles of genetics and problems of experimental evolution. Most of the laboratory work, during the first quarter especially, is with the "fruit-fly," Drosophila melanogaster. The work is largely individual and affords opportunity for practical work and training in the technique of genetics and is intended to serve as an introduction to research. Laboratory, conferences, lectures. Prerequisites: Zoölogy 1, 5, and Botany 5 or equivalent. Laboratory fee, $6.00 per mj. Mj. or DMj. each Quarter, Dr. Bellamy.

31. Genetics and Experimental Evolution.—Continuation (not repetition) of course 30. Each Quarter. Laboratory fee, $6.00, Dr. Bellamy.

33–35. Physiological Zoölogy.—The course is concerned with the physiological and dynamic aspects of Zoölogy and consists primarily of laboratory work with some of the simpler animals which is supplemented by conferences and reading. Individual work, intended as training in methods, illustration of principles, and preparation for research may be assigned to each student. Work may begin in any quarter. Prerequisite: Zoölogy 1 (or 15), 16, 17, Chemistry

1, 2, 3, or their equivalent. Laboratory fee, $6.00 per Mj. Mj. or DMj. Autumn, Winter, and Spring, PROFESSOR CHILD.

33A. Physiological Zoölogy.—The course is concerned with the physiological and dynamic aspects of zoölogy and consists of laboratory work with some of the simpler animals, supplemented by lectures, conferences, and reading. Prerequisite: Zoölogy 15, 16, 17, Chemistry 1, 2, 3, or their equivalent. Laboratory fee, $6.00 per Mj. Mj. or DMj. Summer, PROFESSOR CHILD.

39. Marine Biology (at the Marine Biological Laboratory at Woods Hole, Mass.).—Credit is given at the University of Chicago for courses taken at this laboratory. DMj. Summer, PROFESSOR LILLIE.

III. GRADUATE COURSES

45. Physiology of Development.—A consideration of existing data and views as material for a theory of development and heredity. Lectures, conferences, assigned topics. Prerequisite: Zoölogy 18 and 19, or equivalent. Mj. Autumn, PROFESSOR LILLIE.

46. Organic Evolution.—A consideration of the data and concepts of organic evolution; the historical development of the idea; possible factors in evolution; and some problems of evolution in the light of modern experimental biology. Prerequisite: Zoölogy 45 or equivalent. Mj. Winter, DR. BELLAMY.

47. Individuation and Reproduction.—A consideration of the problem of organic individuality and the processes and conditions of individuation and reproduction. The relations between regulatory processes, experimental reproductions, and the various processes of reproduction in nature. The work of the course will consist of lectures, reports, and discussion of literature and quizzes. Mj. Spring, PROFESSOR CHILD. [Not given in 1922.]

48. Cytological Problems.—Among the subjects considered are: morphology and physiology of the cell, cell division, the cell and the organism in growth, reproduction and regulation, the various methods of cytological research, their objects and their value. The work of the course consists of lectures, reports, discussions, and quizzes. Mj. Spring, PROFESSOR CHILD.

49. Problems in Animal Morphology and Phylogeny.—A course in methods of research for advanced undergraduate and first-year graduate students. Individual instruction and advice will be given as to methods of attacking problems, sources of literature, etc. Simple practice problems will be assigned if desired. Mj. every quarter; individual work, PROFESSOR NEWMAN.

52. Problems in Animal Behavior and Ecology.—Individual instruction in beginning research in laboratory, field or library problems for advanced undergraduate or graduate students. Mj. each Quarter, ASSISTANT PROFESSOR ALLEE.

IV. SEMINAR COURSES

60. Problems of Fertilization.—A consideration of the historical development and present status of the problems of fertilization. Prerequisite: Zoölogy 45, 46, and either 47 or 48. Mj. Spring, PROFESSOR LILLIE.

60A. The Biology of Sex.—A consideration of the biological problems of sex. Prerequisite: Zoölogy 45, 46, and either 47 or 48. Mj. Spring, PROFESSOR LILLIE.

61. Genetics.—A study of the physical and physiological aspects of the mechanism of heredity, and of heredity in relation to problems of animal breeding and eugenics. Prerequisite: Zoölogy 45, 46, and either 47 or 48. Mj. Winter, DR. BELLAMY. [Not given in 1922.]

61A. Bionomic Problems.—A survey and discussion of the facts and theories pertaining to the origin of hereditary "characters." Among the topics discussed are: Adaptation, the "species-question," mutations, and the experimental modification and control of hereditary behavior. Prerequisite: same as for course 61. Mj. Winter, DR. BELLAMY. [Not given in 1922.]

NOTE.—Courses 61 and 61A offered in alternate years, beginning 1923.

63. The Problem of Reproduction in Organisms.—A study of the facts and theories concerning the various methods of reproduction in organisms; the effect of physiological and physical isolation of parts in nature and experiment; the germ-plasm theory in relation to the data of observation and experiments. Special topics will be assigned to each student for report and discussion. Prerequisite: Zoölogy 45, 46, and 47, or their equivalent. Mj. Winter, PROFESSOR CHILD.

64. Senescence and Rejuvenescence.—A study of the facts and theories bearing upon the problem of age in organisms. The physiological and structural changes during ageing. The question of rejuvenescence. Prerequisite: Zoölogy 45, 46, and 47 or 48, or their equivalent. Mj. Winter, PROFESSOR CHILD. [Not given in 1922.]

V. RESEARCH COURSES

70. Zoölogical Problems.—Research at the Marine Biological Laboratory, Woods Hole, Mass. Prerequisite: such of the elementary courses as are essential to the special topic undertaken. 2 or 3 Mjs. Summer, PROFESSOR LILLIE.

71. Zoölogical Problems.—Research. Laboratory fee, $6.00. 1 to 3 Mjs. Summer, PROFESSORS CHILD AND NEWMAN.

72, 73, 74. Zoölogical Problems.—Research work. For graduate students. Prerequisite: training essential to the special topic undertaken. Laboratory fee, $6.00. 1 to 3 Mjs. Autumn, Winter, and Spring, PROFESSORS LILLIE, CHILD, AND NEWMAN, ASSISTANT PROFESSOR ALLEE, AND DRS. MOORE, BELLAMY AND WILLIER.

TABULAR VIEW OF COURSES—DEPARTMENT OF ZOÖLOGY—1921–22

Courses numbered from 1 to 7 are Junior College Courses; those numbered 15 to 39 are Senior College Courses; higher numbers are Graduate Courses.

Hour	Summer	Autumn	Winter	Spring
8:00	1. Elementary Zoölogy Lect.: 10:00; Lab.: M.–F., First Term 8:00–10:00 15. Invertebrate Zoölogy Lect.: 8:00; Lab.: M.–F., First Term 9:00–11:00 16. Invertebrate Zoölogy Lect.: 8:00; Lab.: M.–F., Second Term 9:00–11:00 17. Vertebrate Zoölogy Lect.: 10:00; Lab.: M.–F., Second Term 8:00–10:00	15. Invertebrate Zoölogy Lect.: M., Tu., 9:00 Lab.: W., Th., F., 8:00–10:00 20. Vertebrate Embryology Lect.: W., Th., F., 9:00 Lab.: M., Tu., 11:00	1. Elementary Zoölogy (Sec. *a*) M.–F., 8:00–10 16. Invertebrate Zoölogy Lect.: Tu., W., 9:00 Lab.: M., Th., F., 8:00–10:00	7. Field Zoölogy Lect.: T., Th., 8:00 Lab.: M., W., 8:00–10:00 Field: Saturday mornings
9:00	*Vide supra*	*Vide supra*	1. Elementary Zoölogy (Sec. *a* and *b*) Lect.: Th., F.	20. Vertebrate Embryology Lect.: W., Th., F., 9:00 Lab.: M., Tu., 9:00–12:00 (Sec. *a*)
10:00	*Vide supra*	1. Elementary Zoölogy (Sec. *a*) M.–F., 10:00–12:00 18. Embryology Lect.: T., Th., 10:00 Lab.: M., W., F., 10:00–12:00	17. Vertebrate Zoölogy (Sec. *a*) M.–F., 10:00–12:00 19. Embryology M.–F., 10:00–12:00	21. Comparative Histology Lect.: Th., F., 1:30 Lab.: M., T., W., 1:30–3:30
11:00	5. Evolution, Genetics, and Eugenics M.–F.	5. Evolution, Genetics, and Eugenics M.–F.		5. Evolution, Genetics, and Eugenics M.–F.

TABULAR VIEW OF COURSES—DEPARTMENT OF ZOÖLOGY—1921-22—*Continued.*

Courses numbered from 1 to 7 are Junior College Courses; those numbered 15 to 39 are Senior College Courses; higher numbers are Graduate Courses.

Hour	Summer	Autumn	Winter	Spring
1:30	20. Vertebrate Embryology Lect.: T., W., F., 1:30 Lab.: M., Th., 1:30–4:30 21. Comparative Histology Lect.: Th., F., 1:30 Lab.: M., T., W., 1:30–3:30	1. Elementary Zoölogy (Sec. *b*) M.–F., 1:30–3:30 24. Animal Ecology Lect.: T., W., Th., 1:30 Lab.: M., 1:30–3:30 Field: Saturday	1. Elementary Zoölogy (Sec. *b*) Lect.: see 9:00 Lab.: M., T., W., 1:30–3:30 17. Vertebrate Zoölogy (Sec. *b*) M.–F., 1:30–3:30 25. Animal Geography M.–F. 27. Parasitology Lect.: Th., F., 1:30 Lab.: M., T., W., 1:30–3:30	17. Vertebrate Zoölogy M.–F., 1:30–3:30 20. Vertebrate Embryology Lect.: see 9:00 Lab.: M., Tu., 1:30–4:30 26. Animal Behavior Lect.: T., Th., 1:30 Lab.: M., W., F., 1:30–3:30
Hours to be arranged	30, 31. Genetics and Exp. Evolution 33*a*. Physiological Zoölogy 39. Marine Biology 70. Zoölogical Problems 71. Zoölogical Problems	30, 31. Genetics and Exp. Evolution 33. Physiological Zoölogy 45. Physiology of Development 49. Problems in Morphology 52. Problems in Animal Behavior and Ecology 72. Zoölogical Problems	30, 31. Genetics and Exp. Evolution 34. Physiological Zoölogy 46. Organic Evolution 49. Problems in Morphology, etc. 52. Problems in Animal Behavior and Ecology 63. Problems of Reproduction 73. Zoölogical Problems (Research)	30, 31. Genetics and Exp. Evolution 35. Physiological Zoölogy 48. Cytological Problems 49. Problems in Morphology, etc. 52. Problems in Animal Behavior and Ecology 60. Problems of Fertilization 60A. Biology of Sex 74. Zoölogical Problems

II. THE DEPARTMENT OF PHYSIOLOGY

OFFICERS OF INSTRUCTION

Anton Julius Carlson, A.M., Ph.D., M.D., Professor of Physiology and Chairman of the Department.

Arno Benedict Luckhardt, Ph.D., M.D., Associate Professor of Physiology.

David Judson Lingle, Ph.D., Associate Professor of Physiology.

Lester R. Dragstedt, Ph.D., M.D., Assistant Professor of Physiology.

Arthur Lawrie Tatum, Ph.D., M.D., Assistant Professor of Physiology (Spring Quarter).

Harry Benjamin Van Dyke, Ph.D., Associate in Physiology (Spring Quarter).

Meta Kunde, S.B., Assistant in Physiology.

Edgar C. Turner, S.M., Assistant in Physiology.

Clarence F. G. Brown, S.B., Assistant in Physiology.

Ralph Waldo Gerard, S.B., Assistant in Physiology.

FELLOW, 1921–22

Ethel Florence Cooper, S.B.

INTRODUCTORY

The courses of the Department of Physiology are arranged for four classes of students:

I. Junior and Senior College students who desire some knowledge of human physiology, foods, and personal hygiene as an educational equipment for life.

II. Junior or Senior College students who wish to acquire a more extensive knowledge of the structure and functions of the human body, or who wish to study biology from the physiological side. To satisfy the needs of these students and enable them to cover the subject satisfactorily, a three-major course is given: courses 1, 2, and 3, Introductory Physiology. In order to make it accessible to a large number of students, no prerequisites are demanded.[1]

III. Students wishing to specialize in Physiology, or students of other biological sciences who wish to take minor work in Physiology.

IV. Medical students.

For all courses except 0, 1, 2, and 3, General Biology and General Inorganic Chemistry, or equivalent courses, are prerequisite. For each major or double-minor course requiring laboratory work, the laboratory fee is $6.00.

UNDERGRADUATE SEQUENCES

The Department recommends that students taking Physiology as a major subject should pursue the following courses in introduction: Physics 2, 3, 4; Chemistry, 2S, 3S, 4, 6, 8; Physiology 1, 2; Zoölogy 1, or Botany 1B; Geology 1. In addition one course in the Comparative Anatomy of Vertebrates.

I. PRINCIPAL SEQUENCES

Zoölogy 20, Anatomy 10, Bacteriology 1, Physiology 12, 13, 14, Physiological Chemistry 19, 20, Anatomy 17, or Psychology 1.

[1] Students who wish to get the most possible out of the course are strongly urged to take elementary general Chemistry and general Biology before beginning the work. As the accommodations are limited, preference in registration will be given to those students who will arrange their work so as to be able to take 2, 3, and 4.

II. SECONDARY SEQUENCES

(Prerequisite: Botany 2B, Physiology 1, 2) Zoölogy 20, Anatomy 10, Physiological Chemistry 19, Bacteriology 1, Physiology 12, 13, Psychology 1.

THE BACHELOR'S DEGREE

Senior College students wishing to take their S.B. degree in Physiology should take courses 1, 2, 12, 13, 14. Courses in Chemistry, Physiological Chemistry, Physics, Histology, Bacteriology, Embryology, and Plant Physiology to the extent of three to four majors may be accepted as part of the total of nine majors required for graduation.

THE MASTER'S DEGREE

The requirements for the Master's degree, if all the work is taken in this Department, are: (1) Research, three majors (course 44); (2) five majors from the Graduate or Senior College courses; (3) dissertation. The Senior College courses that may be counted toward the Master's degree are 12, 13, 14.

THE DEGREE OF DOCTOR OF PHILOSOPHY

Courses 12, 13, 14, or their equivalents, are required of all candidates for the Doctor's degree, with Physiology as the major subject. The further selection of courses is arranged in each case by consultation.

COURSES OF INSTRUCTION

I. JUNIOR COLLEGE COURSES

Courses 0, 1, 2, and 3, are intended to familiarize the student with the facts concerning the structure and functions of the human body.

0. Physiology of the Human Body.—An introductory and elementary course, covering the main facts and important recent advances in human physiology, foods, nutrition, personal hygiene, and laws of health, primarily for undergraduate students who desire this knowledge as a part of their educational equipment for life, but who are unable to devote more of their college time to this subject. Lectures, W., Th., F., 1:30; laboratory and demonstrations, M., Tu., 1:30–3:30. Laboratory fee, $6.00. Mj. Summer, Assistant Professor Dragstedt and Assistants; Winter, Professor Carlson and Assistants; Spring, Assistant Professor Tatum and Assistants.

1. Physiology of Blood, Respiration, Digestion, Secretion, and Absorption.—Lectures M., Th., W., 10:00. Laboratory Th., F., 10:00–12:00. Laboratory fee, $6.00. Mj. Autumn and Winter, Assistant Professor Lingle and Miss Kunde.

2. Physiology of Circulation.—Muscle, peripheral nerves, animal heat, excretion. Lectures, M., Tu., W., 1:30. Laboratory, Th., F., 1:30–3:30. Laboratory fee, $6.00. Mj. Winter and Spring, Assistant Professor Lingle and Miss Kunde.

3. Physiology of the Brain, Cord, Eye, Ear.—Sense of taste, smell, pressure, temperature, and muscle sense. Lectures, M., Tu., W., 10:00. Laboratory, Th., F., 10:00–12:00. Laboratory fee, $6.00. Mj. Autumn and Spring, Assistant Professor Lingle and Miss Kunde.

II. SENIOR COLLEGE AND GRADUATE COURSES

12. Physiology of Blood, Circulation, and Respiration.—Lectures and recitations, 3 hours a week; laboratory work, 6 hours a week. Prerequisite: Physio-

logical Chemistry. Laboratory fee, $6.00. Mj. Autumn and Spring, Professor Carlson, Assistant Professors Dragstedt and Tatum, and Assistants.

13.[1] **Physiology of Digestion, Metabolism, Absorption, Secretion, Excretion, Muscles, and Heart.**—Lectures and recitations, 3 hours a week; laboratory, 6 hours a week. Prerequisite: Physiology 12. Laboratory fee, $6.00. Mj. Summer, Autumn, and Spring, Associate Professor Luckhardt and Assistants.

14.[1] **Physiology of the Nervous System and the Senses.**—Lectures, two a week; recitation and conference, one a week; laboratory, 6 hours a week. Prerequisite: Neurology 17. Laboratory fee, $6.00. Mj. Summer and Winter, Professor Carlson, Associate Professor Luckhardt, Assistant Professor Dragstedt and Assistants.

III. GRADUATE COURSES

16. Special Physiology of Mammals.—Including the experiments not given in the general courses. Prerequisite: Physiology 12, 13, or 14, or equivalent. Laboratory fee, $6.00. ½Mj. Summer and Winter, S. 8:00–12:00, Associate Professor Luckhardt.

18. The Principles of Physiology.—As they are applied to the clinical examination of the central nervous system and special senses. Laboratory fee, $3.00. ½Mj. Spring, Associate Professor Luckhardt.

20. Special Physiology of the Gastrointestinal Tract.—Including disorders of digestion, ulcer, obstruction, intestinal stasis, and closely allied subjects. Mj. Autumn and Spring, Assistant Professor Dragstedt.

30. Principles and Problems of Human Nutrition and Dietetics.—Prerequisite: Physiology 13. Laboratory fee, $6.00. Mj. Autumn, Professor Carlson.

32. Special Physiology of the Glands of Internal Secretion.—Laboratory fee, $6.00. Mj. Spring and Summer, Professor Carlson, Assistant Professor Dragstedt.

41. Seminar: in Physiology.—Weekly. Summer, Autumn, Winter, and Spring, Professor Carlson, Associate Professor Luckhardt, Assistant Professors Tatum and Dragstedt.

44. Research Work in Physiology.—Mj. or DMj. each Quarter. Laboratory fee, $6.00 per Mj. Professor Carlson, Associate Professor Luckhardt, Assistant Professor Dragstedt.

II A. THE DEPARTMENT OF PHYSIOLOGICAL CHEMISTRY AND PHARMACOLOGY

A. OFFICERS OF INSTRUCTION IN PHYSIOLOGICAL CHEMISTRY

Fred Conrad Koch, Ph.D., Associate Professor of Physiological Chemistry and Acting Chairman.

Julius Maria Retinger, Ph.D., Assistant Professor of Physiological Chemistry.

John Vincent Lawrence, S.B., Associate in Physiological Chemistry.

Grant Melvin Kloster, S.B., Assistant in Physiological Chemistry.

Eloise Parsons, S.B., Assistant in Physiological Chemistry.

Leo Kempf Campbell, S.B., Assistant in Physiological Chemistry.

FELLOW, 1921–22

Harold Clifford Goldthorpe, S.B.

[1] Courses 13 and 14 will be repeated in the Summer Quarter, 1921; courses 12 and 13 will be repeated in the Summer Quarter, 1922.

B. OFFICERS OF INSTRUCTION IN PHARMACOLOGY

Arthur Lawrie Tatum, Ph.D., M.D., Assistant Professor of Pharmacology and Physiology.

Harry Benjamin Van Dyke, Ph.D., Associate in Pharmacology and Physiology.

William Frederick Schroeder, S.M., Assistant in Pharmacology and Physiology.

Fred Temple Burling, S.B., Assistant in Pharmacology.

INTRODUCTORY

Physiological Chemistry, or Biochemistry, has as its field the chemistry of the cells and tissues of plants and animals, the principles of nutrition, the chemistry of the internal secretions, the chemical correlation of the organs of the body, the chemistry of the digestive processes and of the secretions and excretions; the chemical basis of such problems as those of pigmentation, inheritance, fertilization, irritability, and so on. It has to do also with the derangement of chemical processes in disease. The science thus stands in a close and complementary relation with zoölogy, botany, anatomy, pathology, physical physiology, and bacteriology on the one hand and with chemistry on the other.

Pharmacology deals with the chemistry of drugs, the detection of poisons, the nature and mode of action of chemical agents on organisms, and with the alterations of the physiological processes of the body produced by chemical agents of all kinds. It is a kind of bridge between physiology and therapeutics.

Of the courses offered in this Department, 19 and 20 are intended for medical and graduate students. They embrace the chemistry of the cells and tissues, of digestion, and of the excretions. They are the minimum requirement for students of medicine in Physiological Chemistry. Medical students who wish to take more advanced work are advised to take course 27 or 28, or both. Many of the methods learned in these courses are of value in medical research and in clinical work.

Graduate students in Physiological Chemistry or in other departments must take courses 19 and 20 or the equivalent. For more advanced work they are advised to choose from courses 27, 28, 29, 30, 37, and 38, depending on the nature of their field of work. Course 27 is strongly recommended for all graduate students taking Physiological Chemistry as a minor. Courses 28 and 37 give the practical training in methods as applied to blood, urine, and tissues. Course 37 is good training for those who intend to enter government service or commercial laboratories dealing particularly with foods and drugs and their control. Students requiring more special training in Physiological Chemistry should take courses 27, 28, 29 (or 30), and 38.

In Pharmacology course 21 covers the principles of the pharmacodynamic action of drugs and is particularly intended for medical students.

The Department is particularly desirous of stimulating research, but only when the student has been properly prepared to do the work well. After the research is under way the student is advised to devote practically all of his time to that study rather than to taking unrelated courses of instruction.

UNDERGRADUATE SEQUENCES

Since Physiological Chemistry involves a thorough training in both chemistry and biology it can only be studied after preparation in these other sciences.

For that reason it cannot usually be undertaken before the third college year. The college sequence of studies in this Department may embrace for a principal sequence courses 19 and 20, at least three majors of Chemistry, and the other four majors from the Departments of Physiology, Anatomy, Zoölogy, Botany Bacteriology, or Physics. For the secondary sequence three or four majors of Chemistry, courses 19 and 20, and a major from any other department of science.

The Department recommends that students taking Physiological Chemistry as a major subject should pursue the following courses in introduction: Physics 1, 2, 3, 4; Chemistry 2S, 3S, 4, 6, 8; Physiology 1, 2, or Zoölogy 1 or 15; Botany 1 and 2; Geology 1. In addition, modern languages and one or more courses in Histology and the Comparative Anatomy of Vertebrates, and a course in the Calculus.

THE MASTER'S DEGREE

The requirements for the Master's degree, if all the work is taken in this Department, are: (1) Research, three majors (course 42 or 43); (2) six majors from the Graduate or Senior College courses; (3) thesis; (4) take part in the Departmental Seminar. The Senior College and Graduate courses that may be counted toward the Master's degree are 19, 20, 21, 27, 28, 29, 30.

THE DEGREE OF DOCTOR OF PHILOSOPHY

In Physiological Chemistry courses 19, 20, and 27, or their equivalent, and three or four majors in special methods and preparations, are required of all candidates for the Doctor's degree. Knowledge of physical and organic chemistry and of the literature and history of physiological chemistry are also required. Main emphasis is laid, however, upon ability to do original and accurate research work. Candidates must take part in the seminars.

For the degree of Doctor of Philosophy in Pharmacology a thorough knowledge of physiology, physiological chemistry, toxicology, as well as of the history and literature of pharmacology and the completion of original research work, is required. Candidates must take part in the seminars.

REQUIREMENT FOR A MINOR IN PHYSIOLOGICAL CHEMISTRY

For students taking a full minor in Physiological Chemistry three majors will be credited for work equivalent to courses 12, 13, and 14 in Physiology, or other courses in General and Comparative Physiology, taken elsewhere; in addition six majors selected from courses 19, 20, 22, 27, 28, 29, 30, 37, 38, 42, and 43 are required. For students taking a partial minor in Physiological Chemistry the equivalent of three majors' work in Physiology or Physiological Chemistry taken elsewhere will be accepted in partial fulfilment of the requirement; in addition three majors selected from courses 19, 20, 27, 28, 29, 30, 37, 38, 42, or 43.

LABORATORY FEE

A laboratory fee of $6.00 per major or double-minor is charged for each course involving laboratory work. A deposit of $5.00 per major for breakage is also required of each student taking laboratory work. Any balance remaining will be returned to the student.

A. COURSES OF INSTRUCTION IN PHYSIOLOGICAL CHEMISTRY

I. SENIOR COLLEGE COURSES

19.[1] **Physiological Chemistry.**—Chemistry of the carbohydrates, lipins, and proteins and the general chemistry of the cell. Lectures, two a week; recitations, one a week; laboratory, 6 hours a week. Prerequisite: General Chemistry, Qualitative Analysis, and Elementary Organic Chemistry. Quantitative Analysis recommended. Mj. Summer, Lect., M., Tu., W., 9:00. Laboratory, sec *a*, Th. and F., 8:00–11:00, sec. *b*, Th. and F., 1:30–4:30, Assistant Professor Retinger, and Messrs. Lawrence, Kloster, and Campbell, and Miss Parsons; Winter, Lect., M., Tu., W., 1:30, Lab., sec. *a*, Th. and F., 8:00–11:00, sec. *b*, Th. and F., 1:30–4:30, sec. *c*, Sat., 8:00–1:00, Associate Professor Koch, Assistant Professor Retinger, and Messrs. Lawrence, Kloster, and Campbell, and Miss Parsons.

20.[1] **Physiological Chemistry.**—Chemistry of digestion, metabolism, and excretion. Lectures and recitations, three a week; laboratory, 6 hours a week. Prerequisite: course 19. Mj. Autumn, Lect., M., Tu., W., 8:00; Lab., sec. *a*, Th. and F., 8:00–11:00, sec. *b*, Th. and F., 1:30–4:30, Assistant Professor Retinger, and Messrs. Lawrence, Kloster, and Campbell, and Miss Parsons; Spring, Lect., M., Tu., W., 9:00; Lab., sec. *a*, Th. and F., 8:00–11:00, sec. *b*, Th. and F., 1:30–4:30, Associate Professor Koch, and Messrs. Lawrence, Kloster, and Swoboda, and Miss Parsons.

II. PRIMARILY FOR GRADUATE STUDENTS

27. Physical-chemical Methods Applied to the Tissues and Liquids of the Body.—Osmotic pressure; hydrogen ion determinations; freezing-points; conductivity; polariscope; etc. Practical work. Prerequisite: Physiological Chemistry 19 and 20, Physical Chemistry and Quantitative Analysis. Mj. or ½Mj. Summer and Winter, Assistant Professor Retinger.

28. Quantitative Methods of Urine and Blood Analysis.—Determination of important constituents of the urine and blood. Prerequisite: course 20, or equivalent and Quantitative Analysis desired. ½Mj. or Mj. Autumn and Spring, Associate Professor Koch.

29. Biochemical Preparations.—Mj. Summer, Autumn, and Winter, Associate Professor Koch.

30. Biochemical Preparations.—Continuation of 29—Mj. Summer, Autumn, and Winter, Associate Professor Koch.

37. Methods of Quantitative Analysis in Physiological Chemistry as Applied to Plant and Animal Tissues.—Prerequisite: Quantitative Analysis. Mj. Summer and Winter, Associate Professor Koch.

38. Methods of Quantitative Analysis of a Protein.—Prerequisite: Quantitative Analysis. Mj. Winter and Autumn, Associate Professor Koch.

42. Research Work in Physiological Chemistry.—Mj. or DMj. each Quarter, Associate Professor Koch and Assistant Professor Retinger.

45. Seminar in Biochemistry and Pharmacology.—Discussion of important books and papers. Open to graduate and advanced college students. Weekly. No credit. Summer, Assistant Professor Tatum; Autumn, Associate Professor Koch; Winter, Assistant Professor Tatum; Spring, Associate Professor Koch.

B. COURSES OF INSTRUCTION IN PHARMACOLOGY

21. Pharmacology.—Lectures and recitations, three hours a week; laboratory, 6 hours a week. Prerequisite: Physiology 12, 13, 14, Physiological Chemistry 19 and 20, and Chemistry 85 or Pharmacology 23. Mj. Summer,

[1] Courses 19 and 20 are required of medical students for credit in Physiological Chemistry.

Lect., M., Tu., W., 11:00; Lab., M., Tu., 1:30–4:30; Winter, Lect., M., Tu., W., 8:00; Lab., sec. *a*, Th., and F. 8:00–11:00, sec. *b*, Th. and F., 1:30–4:30, Assistant Professor Tatum and Messrs. Van Dyke, Schroeder, and Burling.

22. Special Problems in Pharmacology.—Laboratory work of advanced character in special problems in pharmacology. Mj. Autumn and Spring, Assistant Professor Tatum.

23. Introductory Pharmacology.—Open to all students of medicine. This course may be substituted for Chemistry 85, covers essentially the field and is designed to offer to irregular students, and others entering during the Spring Quarter, a course introductory both to Pharmacology 21 and to Materia Medica 53. Lectures only, ½Mj. Lectures and Laboratory, Mj. Laboratory section limited to 10 students. Autumn, Assistant Professor Tatum.

43. Research Work in Pharmacology.—Mj. or DMj. each Quarter, Assistant Professor Tatum.

PHYSIOLOGICAL CHEMISTRY COURSES, 1921–22

Summer	Autumn	Winter	Spring
Physiol. Chem. 19, 27, 29, 30, 37, 42, and seminar	Physiol. Chem. 20, 28, 29, 30, 38, 42, and seminar	Physiol. Chem. 19, 27, 29, 30, 37, 38, 42, and seminar	Physiol. Chem. 20, 28 and 42, seminar

PHARMACOLOGY COURSES, 1921–22

Summer	Autumn	Winter	Spring
Pharmacology 21 Pharmacology 43	Pharmacology 22 Pharmacology 23 Pharmacology 43	Pharmacology 21 Pharmacology 43	Pharmacology 22 Pharmacology 43

III. THE DEPARTMENT OF CHEMISTRY, MATERIA MEDICA, AND TOXICOLOGY*†

(INCLUDING MEDICAL PHARMACY, AND COURSES IN THE DEPARTMENT OF CHEMISTRY, AT THE UNIVERSITY)

Department of Chemistry, Toxicology, Materia Medica, and Medical Pharmacy at Rush Medical College

OFFICERS OF INSTRUCTION

AT RUSH MEDICAL COLLEGE

Walter Scott Haines, A.M., M.D., Professor of Materia Medica and Toxicology.

William Duncan McNally, M.D., Instructor in Materia Medica and Toxicology.

AT THE UNIVERSITY OF CHICAGO

Julius Stieglitz, Ph.D., Sc.D., Chem.D., Professor and Chairman of the Department of Chemistry.

William Draper Harkins, Ph.D., Professor of Chemistry.

Hermann Irving Schlesinger, Ph.D., Associate Professor of Chemistry.

Ethel Mary Terry, Ph.D., Assistant Professor of Chemistry.

John William Edward Glattfeld, Ph.D., Assistant Professor of Chemistry.
Gerald Louis Wendt, Ph.D., Assistant Professor of Chemistry.
Ben H. Nicolet, Ph.D., Assistant Professor of Organic Chemistry.
Mary Meda Rising, Ph.D., Instructor in Chemistry.
Howard Adler, Ph.D., Instructor in Chemistry.
Morris Kharasch, S.B., Ph.D., National Research Fellow in Organic Chemistry.
Clarence E. Irion, B.S., Assistant Curator.
Zonja Wallen Lawrence, S.B., Associate in General Chemistry.
John F. McBride, S.B., S.M., Research Instructor in Organic Chemistry.
Anson Hayes, S.B., Research Associate in Physical Chemistry.
Lillian Eichelberger, S.B., Research Associate in Organic Chemistry.
Herman B. Siems, S.B., Lecture Associate.
Everett Bowden, S.B., A.M., Assistant in Chemistry.
Henry L. Cox, S.B., S.M., Assistant in Chemistry.
Marie Farnsworth, S.B., Assistant in Quantitative Analysis.
Aaron Feldman, S.B., Assistant in Chemistry.
Aubrey C. Grubb, A.B., S.M., Assistant in Qualitative Analysis.
Simon Herzfeld, S.B., Assistant in Physical Chemistry.
Alfred Jurist, S.B., Assistant in General Chemistry.
Robert Stern Landauer, Ph.D., Assistant in Quantitative Analysis.
Karl S. Means, S.B., Assistant in Organic Chemistry.
Frank V. Sander, S.B., Assistant in Organic Chemistry.
James Kidder Stewart, S.B., Assistant in Chemistry.
Edgar Wertheim, S.B., Assistant in Organic Chemistry.
Margaret Willcox, A.B., Assistant in Chemistry.

Edward W. Washburn, Ph.D., Professor and Head of the Department of Ceramics, University of Illinois (Summer, 1921).
Raymond D. Mullinix, Ph.D., Professor of Chemistry, Rockford College (Summer, 1921).
Gerhard Dietrichson, S.B., Ph.D., Instructor in Physical Chemistry, University of Illinois (Summer, 1921).

FELLOWS, 1921–22

Samuel King Allison, S.B.
Henry Kelly Buckner, A.B.
Herman Bernhard Siems, S.B., Swift Fellow
Julian Francis Smith, S.M.
James Kidder Stewart, S.M., Loewenthal Fellow.
Margaret Fitch Willcox, A.B., Edith Barnard Fellow.
Robert Stern Landauer, Ph.D., Du Pont Fellow.

REQUIREMENTS AND ELECTIVES IN CHEMISTRY

General Organic Chemistry and Qualitative Analysis are now a prerequisite to the medical courses proper. The necessary knowledge of the subject can be obtained from Chemistry 1, 2, 3, 4 (or 4S), and 6, or admission Chemistry and 2S, 3S, 4, and 6.

Organic Chemistry 30 and 31 (2Mjs.), Autumn and Winter Quarters (see below), may be substituted for course 4 (or 4S).

Students who are preparing for the study of Medicine, and who are candidates for a Bachelor's degree in the University of Chicago, are strongly recommended to take at least one and one-half or two majors more of Chemistry, viz., Quantitative Analysis 8 (1Mj.), or 8M (½M.), and Physical Chemistry 20.

Candidates for a Bachelor's degree who expect to do research work in Physiology or allied medical subjects may with advantage elect further courses from the following: Organic Chemistry 30, 31, 32; Physical Chemistry 60–62; Special Methods of Quantitative Analysis 12–19.

LABORATORY FEE

There is a laboratory fee of $6.00 per major for all courses involving laboratory work in the Department of Chemistry. A deposit of $5.00 for breakage is also required of each student.

A complete list of the courses of the department will be found in the *Circular* of the Departments of Mathematics, Astronomy, Physics, and Chemistry. The courses listed here are those most likely to have some possible interest to medical students and medical men.

COURSES OF INSTRUCTION

NOTE.—After course 9 the courses are arranged in groups according to subjects courses 10–19 include courses in Analytical Chemistry, 20–24 in Elementary Physical Chemistry, 25–49 in Organic Chemistry, 50–59 in Inorganic Chemistry, 60–79 in Physical Chemistry and Radioactivity; 80–89 are general in nature, and 90–101 are research courses. Nos. 30–36, 42–45, 50, 51, 55–59, and 75–79 are open to, and suitable for, Senior College students.

I. PRIMARILY FOR THE JUNIOR COLLEGES

1. Elementary General Chemistry: Inorganic I.[1]—Prerequisite: preparatory Physics. DM. Summer, First Term. Classroom, 6 hours a week; laboratory, 12 hours a week, PROFESSOR MULLINIX. Mj. Autumn, Classroom, 3 hours a week; laboratory, 6 hours a week, ASSISTANT PROFESSOR TERRY.

2. General Chemistry: Inorganic II (continuation of course 1).[2]—Prerequisite: course 1. DM. Summer, Second Term, PROFESSOR MULLINIX. Mj. Winter, ASSISTANT PROFESSOR TERRY.

NOTE.—Course 2, Winter Quarter, is a continuation of course 1, but may be entered by those having credit for admission Chemistry.

3. General Chemistry: Inorganic III (continuation of course 2).[2,3] Prerequisite: course 2. Mj. Spring, ASSISTANT PROFESSOR TERRY.

NOTE.—Courses 1, 2, and 3 are consecutive courses. Separate credit is given for each, but students are advised not to take one course only. The aim of these courses is to give a definite idea of the fundamental principles of chemistry, and not to overburden the student with a mass of unconnected facts. The lectures will be experimental to a considerable extent. The courses are designed to meet the wants, not only of those who wish to go more deeply into chemistry, but of all who wish to study the science as part of a liberal education.

1 N. Elements of Chemistry.—Primarily for student nurses. Classroom work, 3 hours a week; laboratory work, 4 hours a week. M. First Term, Autumn, ASSOCIATE PROFESSOR SCHLESINGER; Spring (1921), DR. RISING.

2S. General Inorganic Chemistry (first course).[2,3]—For students who have had preparatory Chemistry. Prerequisite: preparatory Chemistry and preparatory Physics, one unit each. DM. Summer, First Term. Classroom, 6 hours a week; laboratory, 12 hours a week, ASSOCIATE PROFESSOR SCHLESINGER; Mj. Autumn. Classroom, 3 hours a week; laboratory, 6 hours a week, ASSOCIATE PROFESSOR SCHLESINGER AND MRS. LAWRENCE.

[1] Limited-credit course: After a student has credit for 18 majors but less than 27, these courses will be credited at one-half major each; after he has credit for 27 majors they will not be credited at all.

[2] The classroom work of courses 1, 2, 3, 2S, 3S, 4, 4S, or 6, may be taken without payment of laboratory fees by graduate students who have had equivalent courses in Chemistry.

[3] Students who receive a sufficiently high grade in the classroom and laboratory work of course 2 or 2S may be excused from the laboratory work of course 3 or 3S. Such students take the lectures of 3 or 3S as a half major and are permitted to take course 4 or 6 simultaneously with the lectures of course 3 or 3S if they so desire.

3S. General Chemistry: Inorganic (continuation of course 2S).[1, 2]—DM. Summer, Second Term, Associate Professor Schlesinger; Mj. Winter, Associate Professor Schlesinger and Mrs. Lawrence.

Note.—Whenever, in exceptional cases, the preparation of a student in 2 or 2S justifies it, Qualitative Analysis may be substituted for 3 or 3S.

4. Elementary Organic Chemistry.[1]—Prerequisite: course 3 or 3S. Classroom, 3 hours a week; laboratory, 6 hours a week. Mj. Autumn, Assistant Professor Nicolet; Winter, Dr. Rising; Spring, Assistant Professor Glattfeld.

4S. General Organic Chemistry.[1]—Prerequisite: course 3 or 3S. Classroom, 5 hours a week; laboratory, 12 hours a week; DM., First Term, Summer, Assistant Professor Glattfeld.

6. Qualitative Analysis (introductory course).[1]—The lectures deal with the chemistry of the analytical reactions, and special attention is given to the development and application of the laws of equilibrium and of solutions. This course is, in an important sense, one in advanced General Chemistry. Classroom, 2 hours a week; laboratory 8 hours a week. Prerequisite: course 3 or 3S. Mj. Summer, Autumn, and Winter, Dr. Adler; Spring, Dr. Rising.

7. Qualitative Analysis (continuation of course 6).—Mj. or DM. Summer and Winter, Dr. Adler; Autumn and Spring, Dr. Rising.

Note.—Courses 6, 7, and 10 form a continuous course, which may be begun in any quarter. The aim of courses 6, 7, and 10 will be to train the student to do intelligent analytical work, based on a knowledge of the scientific principles of the subject, and to apply and amplify his knowledge of General and Physical Chemistry.

II. PRIMARILY FOR THE SENIOR COLLEGES

8. Quantitative Analysis (introductory course).—Chiefly laboratory work in gravimetric and volumetric analysis. Laboratory, 8 or 16 hours a week; lecture, 1 hour. Prerequisite: course 7. (May be taken simultaneously with course 6 or 7. Medical students will be admitted to the course after having taken course 6.) Mj. or DM. Summer, Winter, and Spring, Assistant Professor Wendt; Autumn, Assistant Professor Glattfeld.

8M. Quantitative Analysis.—A special course for premedical and medical students giving the elements of gravimetric and volumetric analysis. Prerequisite: course 6. Summer, Winter, and Spring, ½Mj. Assistant Professor Wendt; Autumn, ½Mj. Assistant Professor Glattfeld.

9. Quantitative Analysis (continuation of course 8).—Laboratory, 10 or 20 hours a week. Mj. or DM. Summer, Winter, and Spring, Assistant Professor Wendt; Autumn, Assistant Professor Glattfeld.

Note.—Courses 8 and 9 form a continuous course which may be begun in any quarter.

10. Advanced Qualitative Analysis (continuation of courses 6 and 7).—Prerequisite: courses 7 and 8. Mj. or DM. Laboratory, 10 or 20 hours a week. Summer and Winter, Dr. Adler; Spring, Dr. Rising.

11. Theories and Methods of Quantitative Analysis.—½Mj. 2 lectures a week. Prerequisite: course 9. Summer and Winter, Assistant Professor Wendt.

12–18.—Special Methods in Quantitative Analysis.—

12. Standard Methods of Water Analysis	½Mj.
13. Standard Methods of Food Analysis	½Mj. or Mj.
15. Organic Elementary Analysis	½Mj.
16. Preparation and Analysis of Gases	½Mj.
17. Electrolytic Analysis, Gravimetric	½Mj.
18. Electrometric Titration	½Mj.

[1] The classroom work of courses 1, 2, 3, 2S, 3S, 4, 4S, or 6, may be taken without payment of laboratory fees by graduate students who have had equivalent courses in Chemistry.

[2] Students who receive a sufficiently high grade in the classroom and laboratory work of course 2 or 2S may be excused from the laboratory work of course 3 or 3S. Such students take the lectures of 3 or 3S as a half major and are permitted to take course 4 or 6 simultaneously with the lectures of course 3 or 3S if they so desire.

Laboratory work, 10 hours a week per major. Prerequisite: course 9, but for students in Domestic Science and for medical students, course 8. Summer, Assistant Professor Wendt.

12A. Advanced Quantitative Analysis.—The course includes gas and electrolytic analysis, electro-titrations and silicate analysis. Laboratory work, 10 hours a week. Prerequisite: course 9. Mj. or ½Mj. Winter and Spring, Assistant Professor Wendt.

13A. Applied Quantitative Analysis.—The course includes analytical methods taken from water and food analysis, iron and steel and slag analysis. Laboratory work, 10 hours a week. Prerequisite: course 9. Mj. or ½Mj. Winter and Spring, Assistant Professor Wendt.

13. Standard Methods of Food Analysis.—½Mj. or Mj. Autumn, Dr. Rising.

16. Gas Analysis.—½Mj. Autumn, Dr. Adler.

20. Elementary Physical Chemistry.—An introductory survey course in elementary physical chemistry. Lectures, 3 hours; laboratory work, 6 hours. Prerequisite: course 8. Mj. Summer, First Term, Professor Harkins; Second Term, Dr. Dietrichson; Spring (1921 and 1922), Associate Professor Schlesinger.

24. Introduction to Colloid Chemistry.—An elementary treatment of the main features of colloid chemistry. Lectures, 2 hours a week; laboratory work, 7 hours a week. Prerequisite: Physics 4, Chemistry 8. Mj. Spring, Assistant Professor Terry.

Note.—The lectures may be taken as one-half major without laboratory work.

25. Toxicology.—½Mj. Autumn, Professor Haines and Assistant.

26. Poisons and Their Detection.—A conference and laboratory course. M. Spring, Second Term, Professor Haines.

III. PRIMARILY FOR THE GRADUATE SCHOOL

30. Organic Chemistry.—Lectures, 3 hours a week; laboratory, 6 hours a week. Prerequisite: Quantitative Analysis 8, and for undergraduate students, Elementary Organic Chemistry (course 4, 4S or an equivalent). Mj. Autumn, Professor Stieglitz.

Note.—Undergraduates must have 18 majors of college credit before they are eligible for admission to course 30 or 31. Students who have had adequate laboratory work in Organic Chemistry are admitted to the lectures of courses 30, 31, 32, or 33, each one-half major, without payment of a laboratory fee.

31. Organic Chemistry (continuation of course 30).—Lectures, 3 hours a week; laboratory, 4 hours a week. Mj. Winter, Professor Stieglitz.

32. Organic Chemistry (continuation of course 31).—The aromatic series. Lectures, 2 hours a week; laboratory work, 6 hours a week. Prerequisite: course 31 (course 4 or 4S for medical and home economics students). Mj. Spring, Professor Stieglitz.

33. Organic Chemistry (Advanced).—Fatty and aromatic series. Lectures, 5 hours a week; laboratory, 9 hours a week. Prerequisite: course 4 or 4S, DM. Second Term, Summer, Assistant Professor Glattfeld.

35. Organic Preparations.—Laboratory work, 10 or 20 hours a week. Prerequisite: courses 7 and 9, and Organic Chemistry. Mj. or DM. Summer, Associate Professor Glattfeld; Mj. Autumn, Winter, and Spring, Assistant Professor Nicolet.

36. Organic Preparations (continuation of course 35).—Prerequisite: course 35 or its equivalent, and a reading knowledge of German or French. Mj. or DM. Summer, Assistant Professor Glattfeld; Mj. Autumn, Winter, and Spring, Assistant Professor Nicolet.

37. Organic Preparations (continuation of course 36).—Mj. or DM. Summer, ASSISTANT PROFESSOR GLATTFELD; Mj. Autumn, Winter, and Spring, ASSISTANT PROFESSOR NICOLET.

NOTE.—Students who have taken the laboratory work of courses 30, 31, and 32, or 30, 31, and 33, will omit course 35 and go on with course 36.

38. Qualitative Organic Analysis.—Prerequisite: courses 4, or 4S, 32 or 33, and 35. Mj. Autumn, DR. KHARASCH.

39. Organic Elementary Analysis.—Laboratory work, about 60 hours. M. either Term. Spring, ASSISTANT PROFESSOR GLATTFELD; Autumn, DR. RISING; Winter, ASSISTANT PROFESSOR NICOLET.

42. The Carbohydrates.—½Mj. ASSISTANT PROFESSOR GLATTFELD. [Not given in 1921–22.]

43. Organic Nitrogen Derivatives.—Amino acids; polypeptids; uric-acid series; pyridine group; alkaloids; synthetic drugs. Prerequisite: course 31. ½Mj. Spring, PROFESSOR STIEGLITZ.

44. Physical Chemistry Applied to Organic Problems.—Lectures, 2 hours a week. Prerequisite: courses 31 and 20, 60 or 61. ½Mj. PROFESSOR STIEGLITZ, ASSISTANT PROFESSOR TERRY. [Not given in 1921–22.]

45. Selected Topics of Organic Chemistry.—Application of the electron theory to organic compounds; tautomerism; stereoisomerism; electromerism; organic dyestuffs. Prerequisite: Organic Chemistry. PROFESSOR STIEGLITZ. [Not given in 1921–22.]

46. Special Topics of Organic Chemistry.—Prerequisite: Organic Chemistry. ½Mj. Winter, ASSISTANT PROFESSOR NICOLET.

47. Catalysis.—Preparation and use of newer (solid) catalysis and promoters for organic reactions. Prerequisite: courses 11, 32 or 33, 35. Laboratory work, 10 hours a week. Mj. Autumn, ASSISTANT PROFESSOR TERRY.

48. Electrolytic Processes of Organic Chemistry.—Lectures, 2 hours a week, laboratory, 7 hours a week. Prerequisite: courses 11, 32 or 33, 35. Mj. Winter; ASSISTANT PROFESSOR TERRY.

NOTE.—The lectures may be taken as a half-major without laboratory work and without a payment of a laboratory fee.

57. The Periodic System and the Interrelations of the Elements.—Lectures, ½Mj. PROFESSOR HARKINS. [Not given in 1921–22.]

57A. The Structure of the Atom.—A non-mathematical course in the nucleus of the atom as related to atomic evolution, and on the arrangement of the planetary electrons as related to valence. PROFESSOR HARKINS. [Not given in 1921–22.]

57B, C. Chemical Phenomena and Radioactivity.—From the point of view of atomic structure. Lectures. Each ½Mj. B, Autumn; C, Winter. PROFESSOR HARKINS.

58. The Constitution of Liquids and Solids: Surface Tension and Colloids.—Lectures. ½Mj. PROFESSOR HARKINS. [Not given in 1921–22.]

59B. The Theory of Physico-Chemical Measurements.—Methods of measurement, sources of error, design of apparatus, etc. Lectures, W., Th., 11:00. Prerequisite: Elementary Physical Chemistry. Summer, First Term, PROFESSOR WASHBURN.

60. Physical Chemistry.—Lectures, 3 hours; laboratory work, 6 hours. Prerequisite: Elementary Physical Chemistry 20 and the Elements of Calculus for undergraduate students; Quantitative Analysis and the Elements of Calculus for graduate students. Mj. Autumn, PROFESSOR HARKINS.

61. Physical Chemistry; Electrochemistry (continuation of course 60).—Hours as in 60. Prerequisite: course 60 or its equivalent and Physics 3 and 4. Lectures. Mj. Winter, PROFESSOR HARKINS.

62. Physical Chemistry; Applications of Thermodynamics and Kinetic Theory (continuation of course 61).—Lectures, 4 hours a week. Prerequisite: course 61 or its equivalent in Physics. Spring, PROFESSOR HARKINS.

63. Physico-chemical Measurements.—Introductory to Research. Laboratory work, 10 or 20 hours a week. Prerequisite: course 61 and Physics 5. DM. Second Term, Summer, DR. DIETRICHSON; Mj. Autumn, Winter, and Spring, PROFESSOR HARKINS.

65A, B. Theories of Solutions.—Each ½Mj. PROFESSOR HARKINS. [Not given in 1921–22.]

68A, B, C, D. Chemical Thermodynamics and Kinetics.—½Mj. in each Quarter. Prerequisite: Physical Chemistry and Calculus. Course D, M. First Term, Summer, PROFESSOR HARKINS.

75. Subatomic Phenomena and Radioactivity.—Lectures from the point of view of the subatomic action of radiation and other forces. Prerequisite: course 20. ½Mj. Spring, ASSISTANT PROFESSOR WENDT.

76. Laboratory Course in Radioactivity.—To accompany or follow course 75. ½Mj. Spring, ASSISTANT PROFESSOR WENDT.

82. Club Meetings.—Meetings of the Kent Chemical Society will be held twice a month. They may be attended by anyone interested. The subjects for the meetings will be announced at least one week in advance. Su ımer, Autumn, Winter, and Spring.

85. The Chemistry and Preparation of Medicinal Drugs.—½Mj. Spring, PROFESSOR HAINES.

CHEMISTRY COURSES IN THE DEPARTMENT OF PHYSIOLOGICAL CHEMISTRY

(See the Biological Group *Circular*)

AT RUSH MEDICAL COLLEGE

51. Toxicology.—An advanced conference and laboratory course dealing with the physical and chemical properties of the more important poisons, their effects and treatment, and their detection. Conferences and laboratory: 60 hours. .8Mj. Hours to be arranged. PROFESSOR HAINES.

52. Clinical Chemistry.—A lecture, conference, and laboratory course dealing with the urine, gastric contents, and other animal fluids, in their relation to disease, and embracing the composition of these fluids, the chemical and microscopical detection of abnormal constituents, and the interpretation of their clinical significance. Lectures, conferences, and laboratory: Tu., 11:00; Th., F., 11:00–12:00. 60 hours. .8Mj. PROFESSOR HAINES. [Not given in 1920–21.]

Course 52 may be counted as a part of the five and one-half required majors in Medicine.

53. Materia Medica, Medical Pharmacy, and Toxicology.—A lecture and conference course dealing with the physical, chemical, and pharmaceutical properties of medicinal agents and their toxicology. Lectures and conferences: Autumn, lectures, Tu., W., F., Sat., 11:00; Spring, Tu., W., F., Sat., 11:00. 48 hours. .8Mj. PROFESSOR HAINES AND DR. CHAPMAN.

53A. Materia Medica and Medical Pharmacy.—A laboratory course supplementary to course 53. Autumn, Tu., F., 9:00–11:00; Spring, Tu., F., 9:00–11:00. 48 hours. .4Mj. PROFESSOR HAINES AND DR. MCNALLY.

V. DEPARTMENT OF THERAPEUTICS AND PREVENTIVE MEDICINE

OFFICERS OF INSTRUCTION

THEODORE TIEKEN, M.D., *Ingals** Professor and Head of the Department of Therapeutics.

BERNARD FANTUS, A.M., M.D., Associate Professor of Therapeutics.

RALPH WALDO WEBSTER, M.D., PH.D., Assistant Professor of Medical Jurisprudence.

ROBERT JAMES GAY, M.D., Instructor in Hygiene and Preventive Medicine.

DANIEL ROBERTS BROWER, M.D., Instructor in Practical Therapeutics.

CHARLES OTTO CARLSTROM, G.D., Assistant in Kinesitherapy.

INTRODUCTORY

The course in Hygiene and Sanitation is given to the Senior class and consists of lectures and conferences.

A course in the principles of Therapeutics is given to the Junior class three times a week throughout the Winter Quarter by means of lectures and conferences. One of these hours is devoted chiefly to instruction in prescription-writing from a therapeutic standpoint. The work is continued during the Spring Quarter by means of a conference course with more special reference to individual diseases.

A course in Practical Therapeutics is offered in which the student is personally taught manipulative methods, including Massage, Electricity, Hydrotherapy, etc., and the practical care of the sick.

It is intended that this Department shall supplement the work of the Department of Medicine by dealing more in detail with the technique of treatment.

Any course in Clinical Medicine dealing specifically with Therapeutics, for example, course 23 in the Department of Medicine, may be applied on the required credit in Materia Medica and Therapeutics.

COURSES OF INSTRUCTION

I. JUNIOR YEAR

1. Therapeutics.—A lecture and prescription-writing course. Prerequisite: Materia Medica III, course 53. Lectures: M., Th., 8:00; prescription-writing: Fri., 8:00. .6Mj. Winter, ASSOCIATE PROFESSOR FANTUS.

2. Therapeutics.—A conference course on the therapeutic management of special diseases, including prescription-writing. Prerequisite: Materia Medica III, course 53. .6Mj. Spring, M., W., Th., 8:00, ASSOCIATE PROFESSOR FANTUS.

3. Practical Therapeutics.—A laboratory and practical course in massage, hydrotherapy, aerotherapy, electrotherapy, cooking for the sick, and the general management of the sick, with clinical application. Given to the class in sections. Tu., Th., 4:00–6:00. .4Mj. Autumn and Winter, DR. BROWER AND ASSISTANTS.

II. SENIOR YEAR

5. Preventive Medicine, Hygiene, and Sanitation.—A lecture and conference course in public health and sanitation, including a study of municipal water, milk, and food supply, housing, etc. .4Mj. Autumn, Tu., F., 8:00, DR. GAY.

* The *Ingals* Professorship of Therapeutics was founded in 1898 by the late Dr. Ephraim Ingals, by a gift to the college of $25,000 for the promotion of higher education and the advancement of medical science. Dr. Ingals was professor of materia medica and medical jurisprudence in Rush Medical College from 1859 to 1871, and was a member of the Board of Trustees and treasurer of the College for many years.

VI. THE DEPARTMENT OF PATHOLOGY

OFFICERS OF INSTRUCTION

Ludvig Hektoen, M.D., Sc.D., LL.D., Professor and Head of the Department of Pathology; Director of the John McCormick Institute for Infectious Diseases.

Harry Gideon Wells, A.M., Ph.D., M.D., Professor of Pathology; Director of the Otho S. A. Sprague Memorial Institute.

Esmond Ray Long, Ph.D., Instructor in Pathology.

Emanuel B. Fink, Ph.D., M.D., Instructor in Pathology.

Kenneth Fowler, A.B., M.D., Logan Fellow in Pathology.

Elizabeth Pauline Wolf, S.B., Laboratory Assistant in Pathology.

Ralph L. Harris, S.B., Research Assistant in Pathology.

MEMBERS OF THE OTHO S. A. SPRAGUE MEMORIAL INSTITUTE STAFF

Lydia M. DeWitt, A.M., M.D., Associate Professor of Pathology.

Karl Konrad Koessler, M.D., Ph.D., Assistant Professor of Experimental Medicine.

Maud Slye, A.B.

Julian Herman Lewis, A.M., Ph.D.

Milton Theodore Hanke, S.B., Ph.D.

Mary Eugenie Maver, S.B.

Edith Farrar, A.B.

Isadore M. Jacobsohn, S.B.

Edith Bell.

Lyman Chalkley, Jr., S.B.

AT RUSH MEDICAL COLLEGE

Ludvig Hektoen, M.D., Sc.D., LL.D., Professor and Head of the Department of Pathology.

Edwin Raymond LeCount, M.D., Professor of Pathology.

George Howitt Weaver, M.D., Professor of Pathology.

Homer King Nicoll, A.B., M.D., Instructor in Pathology; Serologist, Presbyterian Hospital.

Burrell Otto Raulston, M.D., Instructor in Pathology; Resident Pathologist, Presbyterian Hospital.

Edmund Howard Hatton, M.D., Associate in Pathology.

Celestin B. Semerak, M.D., Fellow in Pathology.

INTRODUCTORY

The courses offered by the Department include the required work in Pathology in the curriculum of the first two years in the study of Medicine, as well as advanced courses arranged for those desiring a more extended knowledge of the subject, and for those wishing to qualify themselves for research.

For each major or double-minor course requiring laboratory work the laboratory fee is $6.00.

THE MASTER'S DEGREE

For the Master's degree a dissertation and eight majors of graduate or Senior College work in Pathology are required, if all the work is in Pathology. Substitution of courses in Bacteriology and Immunity may be made with the approval of the Head of the Department, but courses 1, 2, 3, and at least 3 majors of Research must be taken in Pathology.

THE DEGREE OF DOCTOR OF PHILOSOPHY

Courses required of all candidates are Pathology 1, 2, and at least 3 majors in course 3; also Bacteriology 2, and a course covering the fundamental principles and methods of Immunology. Courses in Hygiene and Bacteriology may be accepted as equivalent to courses in Pathology to a maximum of 5 majors with the approval of the Head of the Department. A dissertation must be presented representing the results of original research under the direction of an officer of the Department, but so conducted as to indicate the ability of the candidate to conduct independent original investigation.

Students wishing to take a minor in Pathology will meet the same requirements as for the Master's degree, except that a dissertation is not required.

COURSES OF INSTRUCTION

I. SENIOR COLLEGE COURSES

1. General Pathology and Pathological Histology.—A practical laboratory course in general pathologic histology, supplemented by the study of fresh and museum specimens, and by recitations in general pathology. Prerequisite: Histology, Bacteriology, Physiology, Physiological Chemistry, and Visceral Anatomy. Laboratory, recitations, and lectures: 9 hours a week. Laboratory fee, $6.00. Mj. Autumn, Winter, PROFESSOR WELLS, DRS. LONG, FINK, AND ASSISTANTS.

2. Pathology of Infectious Granulomas and Tumors.—Laboratory fee, $6.00. Mj. Winter, Spring, PROFESSOR WELLS, DRS. LONG, FINK, AND ASSISTANTS.

1 and 2 will be given as double-minor courses in the First and Second Terms of the Summer Quarter. Daily 8:00–11:00.

5. Special Pathology.—Supplementary to and paralleling course 2. A study of the pathological changes affecting different organs and tissues. Laboratory fee, $6.00. Limited to 30 students. Mj. Spring, PROFESSOR WELLS AND ASSISTANTS.

6. Laboratory Methods in the Diagnosis and Study of Tuberculosis.—Lectures and laboratory work on the bacteriology, pathology, and immunology of tuberculosis. Designed to train students in the general routine laboratory work of tuberculosis sanatoria and for research in tuberculosis. Prerequisite: Bacteriology 2A or 2B. Laboratory fee, $6.00. Limited to 20. Mj. Spring, DR. LONG.

II. GRADUATE COURSES

3. Advanced Pathology.—Open to a limited number of students who have credit in general pathology. Laboratory work will be given in pathological technique, the study and recording of autopsies, and special pathological material. Laboratory fee, $6.00. Hours to be arranged for each student. Mj. each Quarter, PROFESSOR WELLS.

4. Research in Pathology.—Open to a limited number of qualified students and graduates in medicine. Laboratory fee, $6.00 per Mj. Hours to be arranged for each student. Mj. or DMj. each Quarter, PROFESSORS HEKTOEN AND WELLS.

III. JUNIOR AND SENIOR COURSES (WEST SIDE)

12. Special Pathologic Anatomy and Histology.—Limited to thirty-six students. Practical instruction is given in the methods of making post-mortem examinations and of recording the results. The student studies and describes the gross and microscopic appearance of diseased organs and tissue. Bacteriologic and chemical methods and experiments are employed whenever indicated and the clinical relations (pathologic physiology) of the morbid conditions are emphasized. *Prerequisite: courses Pathology 1 and 2,* and at least one quarter of clinical work. Daily 2:00–4:00, and autopsies. 144 hours. 1.2Mjs. Summer, Autumn, Winter, and Spring, PROFESSOR LECOUNT AND ASSISTANTS.

12A. A Continuation of Course 12 for Students Taking Additional Work Along the Same Lines. Hours to be arranged; two hours daily. 144 hours. 1.2Mj. Autumn, Winter, and Spring, PROFESSOR LECOUNT AND ASSISTANTS.

13. The Histology and Diagnosis of Tumors.—Prerequisite: courses Pathology 1 and 2. 8:00–10:00. 72 hours. Mj. Autumn, PROFESSOR LECOUNT.

14. Infection and Immunity.—A lecture course. Summer, Second Term; Winter, First Term, Wed., Sat., 8:00. 12 hours. .2Mj. PROFESSOR HEKTOEN.

17. Advanced Laboratory Work and Research in Pathology.—Open to a limited number of specially qualified students and graduates in medicine. Hours arranged for each student. Credit given based on time and quality of work. Throughout the year. PROFESSORS HEKTOEN AND LECOUNT.

VI A. THE DEPARTMENT OF HYGIENE AND BACTERIOLOGY

OFFICERS OF INSTRUCTION

EDWIN OAKES JORDAN, PH.D., SC.D., Professor of Bacteriology and Chairman of the Department of Hygiene and Bacteriology.

JOHN FOOTE NORTON, PH.D., Assistant Professor of Bacteriology.

JOHN EVERETT GORDON, S.B., Instructor in Bacteriology.

HARRY MONTGOMERY WEETER, S.M., Instructor in Bacteriology.

WILLIS EUGENE GOUWENS, S.B., Associate in Bacteriology.

NOEL PAUL HUDSON, A.B., Associate in Bacteriology.

LELAND WILBUR PARR, S.B., Assistant in Bacteriology.

VERA HUTCHINSON ADAMS, Assistant in Bacteriology.

DUDLEY BILLINGS REED, M.D., Associate Professor of Physical Culture; Health Officer of the University.

WILLIAM THOMAS BELFIELD, M.D., Professor of Surgery, Rush Medical College.

CLIFFORD GROSSELLE GRULEE, M.D., LL.D., Associate Professor of Medicine (Pediatrics), Rush Medical College.

HARRY EDGAR MOCK, M.D., Assistant Professor of Medicine (Industrial), Rush Medical College.

JAMES MINNICK, Superintendent, The Chicago Tuberculosis Institute.

WILLIAM BARNARD SHARP, M.D. (Summer, 1921).

PAUL ROBERTS CANNON, A.B., Professor of Pathology and Bacteriology, University of Mississippi Medical School (Summer, 1921).

UNDERGRADUATE SEQUENCES

I. PRINCIPAL SEQUENCES

The principal sequence consists of nine majors from the courses offered by the Department. The sequence must be arranged in consultation with the Head of the Department.

II. SECONDARY SEQUENCES

To students wishing to take a minor in this Department, six majors from the following courses are recommended: 1, General Bacteriology; 2A, Pathogenic Bacteria; 3, Public Hygiene; 4, Industrial Hygiene; 5, Public-Health Problems; 10, Sanitary Aspects of Food Supply, (or 11 Water and Water Supply, or 12, Public-Health Laboratory Methods); 15, Advanced Bacteriology (2 or 2½ Mjs.).

For the Master's degree a dissertation and eight majors of graduate work (including dissertation) in this Department are required. The majors must be selected with the approval of the Head of the Department.

COURSES OF INSTRUCTION

I. JUNIOR COLLEGE COURSES

100. Personal Hygiene.—The elements of normal growth, functions, toleration limits, physical diagnosis, prodromes of disease conditions, and the essentials of personal health maintenance and of corrective therapeutics. For non-medical students. Lectures and demonstrations. M. Summer, First Term, 9:00, M., Tu., W., Th., Dr. Sharp.

II. SENIOR COLLEGE COURSES

1. General Bacteriology.—Lectures on the fundamental facts of bacteriology, including brief discussions of the industrial and hygienic applications of bacteriology. Yeasts and molds and several groups of bacteria are studied in the laboratory. Designed for general scientific students. Prerequisite: Chemistry 1, 2, and 3 (or 2S and 3S), and Zoölogy 1 or equivalent. Laboratory fee, $6.00. Limited to 30. Mj. Summer, 8:00–10:00, M.–F., Mr. Weeter; Autumn, 1:30–3:30, M.–F., Assistant Professor Norton; Spring, 8:00–10:00, M.–F., Mr. Gouwens.

2A. The Pathogenic Bacteria.—To be taken in sequence to 1 (see description of 2B). Medical credit will be given either for 1 and 2A, or for 2B. Laboratory fee, $6.00. Limited to 30. Mj. Summer, 1:30–3:30, M.–F., Mr. Hudson; Winter, 10:00–12:00, M.–F., Assistant Professor Norton.

2B. The Pathogenic Bacteria.—Lectures deal with the morphology and biology of bacteria in general and with infection, immunity, and the specific infectious diseases. In the laboratory, students make up bacteriologic media, study some of the more important groups of non-pathogenic and pathogenic bacteria, keep daily records of the biologic changes in cultures under observation, examine water, sewage, milk, pus, saliva, etc., conduct post-mortems on infected animals, and isolate and identify bacteria in mixtures. Those who are not students of medicine will be admitted to this course only by permission of the instructor. Prerequisite: Physiological Chemistry 19. Laboratory fee, $9.00. 1½Mjs. Summer, Mr. Gordon; Autumn, Messrs. Weeter, Gouwens, Hudson; Spring, Assistant Professor Norton, Mr. Hudson. Hours: lectures, 1:30, M., Tu., W.; laboratory, sec. *a*, 10:00–12:00, M.–F.; sec. *b*, 2:30–4:30, M.–F. No section *b* in Summer Quarter.

3. Public Hygiene.—The applications of bacteriology to municipal hygiene, water supply, food supply, etc. Prerequisite: Chemistry 1, 2, and 3 (or 2S and 3S); Zoölogy 1 or equivalent. M. Summer, First Term, 10:00, Tu., W., Th., F., Assistant Professor Norton; ½Mj. Autumn, 10:00, W., Th., Professor Jordan.

4. Industrial Hygiene.—Course covers dangerous trades, industrial health hazards, occupational diseases, with their control, prevention, and social aspects. For medical students; also sociological students who have had some preparation in the fundamental sciences. Prerequisite: course 3. ½Mj. Spring, 10:00, M., Tu., Dr. Mock.

5. Public-Health Problems.—Infant welfare, the anti-tuberculosis campaign, venereal diseases. Prerequisite: course 2A or 2B or 3. ½Mj. Spring, 10:00, W., Th., Professor Belfield, Assistant Professor Grulee, and Mr. Minnick.

III. GRADUATE COURSES

10. Sanitary Aspects of Food Supply.—Lectures and conferences on the bacteriology of foods, including milk, butter, eggs, canned foods, etc.; on food preservation; and particularly on the hygienic aspects of food. Laboratory work includes practical examinations and studies of food micro-organisms. Prerequisites: course 1 or 2B, Chemistry 8 (or 8M). Laboratory fee, $6.00. Limited to 8. Mj. Spring, 8:00–10:00, M.–F., Mr. Weeter.

11. Water and Water Supply.—Sources of supply and methods of purification. Chemical, bacterial, and microscopical methods. Lectures and laboratory work. Prerequisite: Chemistry 8 (or 8M); course 1 or 2B. Laboratory fee, $6.00. Limited to 8. Mj. Winter, 8:00–10:00, M.–F., Mr. Weeter.

12. Public Health Laboratory Methods.—Diagnosis of diphtheria, typhoid fever, and rabies; Wasserman test, etc. Prerequisite: course 2A or 2B. Laboratory fee, $6.00. Limited to 25. Mj. Summer, 3:30–5:30, M.–F., Mr. Cannon; Winter, 1:30–3:30, M.–F., Messrs. Gouwens and Hudson.

13. Parasitology.—Animal parasites of man (including protozoa). Prerequisite: course 1 or 2A or 2B. Class is limited to 10. Laboratory fee, $6.00. Mj. [Not given in 1921.]

14. Immunity in Relation to Preventive Medicine.—The use of sera, antitoxins, and the like in treating disease; also the use of antibodies, such as agglutinins and opsonins, in the diagnosis of diseased conditions. Prerequisite: course 2A or 2B. Mj. [Not given in 1921.]

15. Advanced Bacteriology.—Open to a limited number of specially prepared students and to graduates in medicine. Prerequisite: courses 2A or 2B, and 12; Chemistry 8 to 8M. Laboratory fee, $6.00. Mj. Repeated each Quarter, Professor Jordan and Assistant Professor Norton.

16. Vital Statistics and Epidemiology.—Prerequisite: course 2A or 2B and 3. ½Mj. Winter, 10:00, W., Th., Professor Jordan.

17. School Hygiene.—This course considers the more important problems relating to the individual school child and his environment. It includes discussions of posture, neuro-muscular co-ordinations, physical defects, and some phases of personal hygiene. The heating, lighting, ventilation of schoolhouses, and other facts of the common school life are also taken up. Consideration is given to the question of school programs, school recreations, communicable diseases, and first aid. Admission to this course is limited to College of Education students and to students taking major or minor sequences in Bacteriology. Mj. Winter (at College of Education), 11:00, M., Th., Associate Professor Reed.

18. Intestinal Bacteriology.—A conference and demonstration course dealing with the problems of intestinal hygiene. This includes the bacteriology of normal intestines and of intestinal diseases, and effect of diet on the intestinal flora, auto-intoxication, Bulgarian milk therapy, etc. Prerequisites: courses 2A or 2B, M. Summer, Second Term, 10:00, Tu.–F., Mr. Cannon; ½Mj. Winter, 10:00, M., Tu., Mr. Parr.

19. Sanitary Surveys.—A limited number of advanced students may register with the Head of the Department for the Sanitary Survey of some selected city or town, the work to cover a detailed study of vital statistics, water supply, milk supply, food supply, health administration, and other factors. Registration for this course after consultation only. Mj. each Quarter. By special permission may be taken out of residence. Professor Jordan.

20. Research in Bacteriology.—Laboratory fee, $6.00 per Mj. Mj. or DMj. each Quarter, Professor Jordan, and Assistant Professor Norton.

IN THE DEPARTMENT OF PATHOLOGY

6. Laboratory Methods in the Diagnosis and Study of Tuberculosis.—Lectures and laboratory work on the bacteriology, pathology, and immunology of tuberculosis. Designed to train students in the general routine laboratory work of tuberculosis sanatoria and for research in tuberculosis. Prerequisite: Bacteriology 2A or 2B. Laboratory fee, $6.00. Limited to 20. Mj. Spring, Lectures, M., 1:30; Laboratory, Tu.–F., 1:30–3:30, Dr. Long.

HYGIENE AND BACTERIOLOGY

Hour	Summer, 1921	Autumn, 1921	Winter, 1922	Spring, 1922
8:00	1		11	1, 10
9:00	1, 100		11	1, 10
10:00	3, 18, 2B (lab.)	3, 2B (lab. a)	2A, 16, 18	2B (lab. a), 4, 5
11:00	2B (lab.)	2B (lab. a)	2A, 17	2B (lab. a)
1:30	2A, 2B (lec.)	1, 2B (lec.)	12	1N, 2B (lec.)
2:30	2A	1, 2B (lab. b)	12	1N, 2B (lab. b)
3:30	12	1, 2B (lab. b)		2B (lab. b)
4:30	12			
Hours to be arranged	15, 19, 20	15, 19, 20	15, 19, 20	15, 19, 20

VII. DEPARTMENT OF MEDICINE

OFFICERS OF INSTRUCTION

INTERNAL MEDICINE

Frank Billings, Sc.D. (Harv.), M.D., Professor and Head of the Department of Medicine.

Norman Bridge, A.M., M.D., Emeritus Professor of Medicine.

James Bryan Herrick, A.M., M.D.; Bertram Welton Sippy, M.D.; Joseph Leggett Miller, M.D.; Samuel Robert Slaymaker, M.D.; Joseph Almarin Capps, M.D., Professors of Medicine.

Bird McPherson Linnell, M.D.; Wilber E. Post, M.D.; Ernest Edward Irons, M.D., Ph.D.; Rollin Turner Woodyatt, M.D.; Ralph C. Brown, M.D., Associate Professors of Medicine.

Ludwig Manheimer Loeb, M.D.; James Murray Washburn, M.D.; Alexander Francis Stevenson, M.D.; John Ritter, M.D.; Leon Bloch, M.D.; Ellis Kirk Kerr, M.D.; Karl K. Koessler, M.D., Ph.D.; Walter Wile Hamburger, M.D.; Archibald Hoyne, M.D.; John L. Jacque, M.D.; George Frederick Dick, M.D., Assistant Professors of Medicine.

Harry E. Mock, M.D.; Alice Hamilton, M.D., Assistant Professors of Medicine (Industrial).

James Richard Greer, M.D.; John Hancock McClellan, M.D.; Donald P. Abbott, M.D.; Harry G. Hardt, M.D.; Asher F. Sippy, M.D.; Fred M. Smith, M.D.; Clarence L. Wheaton, M.D.; George Howell Coleman, M.D., Instructors in Medicine.

Frederick Olaf Frederickson, M.D.; Sigismund Franklin Waterman, M.D.; Francis Amos Chapman, M.D.; Lee Connell Gatewood, M.D.; Yale N. Levinson, M.D.; George A. Yeager, M.D.; Leland Charles Shafer, M.D.; Abraham Rimmerman, M.D.; John D. Ellis, M.D.; Nathan S. Davis, III, M.D.; Lowell Delford Snorf, M.D.; William A. Thomas, M.D.; Fred M. Drennan, M.D.; Eva Frazer Johnson, M.D.; Frederic W. Burcky, M.D.; Marie G. Ortmayer, M.D.; Carl Rinder, M.D.; Nicholas I. Fox, M.D., Associates in Medicine.

Francis Leo Foran, M.D.; Robert Wood Keeton, M.D.; Willison Bridges Moody, M.D.; Clifford J. Pearsall, M.D.; Delon Acree Williams, M.D., Assistants in Medicine.

William George Hibbs, M.D., *Dane Billings Memorial* Fellow in Medicine.

PEDIATRICS

Clifford G. Grulee, A.M., M.D., LL.D., Associate Professor of Medicine (Pediatrics).

Frank Wesley Allin, M.D.; Walter Fritz Winholt, M.D., Assistant Professors of Medicine (Pediatrics).

August Strauch, M.D.; Walter H. O. Hoffmann, M.D.; Oscar Ellis Chase, M.D.; Arthur Harley Parmelee, M.D., Instructors in Medicine (Pediatrics).

Cecil Theodore Heidel, M.D.; Charles K. Stulik, M.D., Associates in Medicine (Pediatrics).

Barnet Edward Bonar, M.D.; Charles M. Bacon, M.D.; Henry Curtis Johnson, M.D.; John Alexander Gardiner, M.D.; Henry Shacoff, M.D., Assistants in Medicine (Pediatrics).

May Michael, M.D., Assistant Professor (*extra mural*) of Medicine (Pediatrics).

NERVOUS AND MENTAL DISEASES

Thor Rothstein, M.D.; Peter Bassoe, M.D., Professors of Medicine (Nervous and Mental Diseases).

Sydney Kuh, M.D.; James Cornelius Gill, M.D.; George Washington Hall, A.M., M.D., Associate Professors of Medicine (Nervous and Mental Diseases).

Josephine Estabrook Young, M.D., Assistant Professor of Medicine (Nervous and Mental Diseases).

John Favill, M.D., Instructor in Medicine (Nervous and Mental Diseases).

Maurice Braude, M.D.; Harry R. Hoffman, M.D., Associates in Medicine (Nervous and Mental Diseases).

Earl D. Huntington, M.D.; Loren William Avery, M.D., Assistants in Medicine (Nervous and Mental Diseases).

EXTRA-MURAL

Clarence A. Neymann, M.D., Assistant Professor of Medicine (Psychiatry).

Ruth Fox, Assistant Psychologist.

INTRODUCTORY

In this Department instruction is given in the topics usually comprised under the terms Internal Medicine, Pediatrics, and Neurology. The abundant clinical material in the Central Free Dispensary, the Presbyterian, Anna Durand, the Children's Memorial, Cook County, and other hospitals makes it possible to give instruction largely by object-lessons—the actual study of disease in the living patient by students arranged in small groups. In the Junior or first clinical year an effort is made to give the student a survey of the general field, with training in the technique of physical examination, laboratory methods, and in history-taking. To this end the student takes, in the Junior year, work in the following courses: VII-0, Practice of Medicine; VII-1, Principles of Pediatrics; VII-2, Physical Examination; VII-5, Laboratory Diagnosis; and work in the dispensary, and arena clinics in courses 6, 8, 9, 9A, 10, 11, and 13. In the Senior year opportunity is afforded for more advanced clinical work in the section clinics in the Cook County Hospital, VII-3, 3A, etc., in the ward clinics in the Presbyterian Hospital, VII-6A, and in the several clinical courses in Internal Medicine, Pediatrics, and Neurology and Psychiatry. The courses specifically required of each student are courses VII-0, 1, 2, 5; and 6, or 6A, or 1.2Mjs. taken from courses 3 to 3P. In addition thereto, he must elect courses of his choice to make a total of 5.5Mjs. Attention is called also to the conference courses, offered in the Senior year, giving a general review of the clinical subjects (see p. 90).

COURSES OF INSTRUCTION

INTERNAL MEDICINE

JUNIOR YEAR

0. Practice of Medicine.—A conference and recitation course on the essentials of the practice of medicine, designed to afford a general survey of the more important diseases and conditions in preparation for the clinical courses. Limited to 30 students in each section. 36 hours. M., W., F., 8:00. .6Mj. Autumn and Spring, Professor Slaymaker, Assistant Professor Washburn, Drs. Greer, Abbott, and Coleman.

2. Physical Examination.—A conference and practical course on the methods of physical exploration, chiefly of the normal body. Tu., Th., Sat., 8:00. 36 hours. .3Mj. Autumn and Spring, Professor Tieken, Associate Professor Gill, and Others.

5. Laboratory Diagnosis.—A laboratory course in the chemical, microscopic, and bacteriologic examination of blood, urine, sputum, gastric contents, feces, secretions, exudates, etc., and their pathologic and clinical significance, especial attention being given to the acquisition of an accurate technique. Each class limited to 36 students. Autumn and Spring, each Term: sec. *a*, M., W., Th., sec. *b*, Tu., F., Sat., 9:00–11:00. 36 hours. .3Mj. Drs. Nicoll, Raulston, and Others.

6. A Clinical Course.—In the Central Free Dispensary each Quarter. In the departments of Internal Medicine, of Pediatrics, and of Nervous and Mental Diseases, conducted by members of the Department. Prerequisite: Physical and Laboratory Diagnosis. In sections, one quarter for each section. Daily, 9:00–11:00. 144 hours. 1.2Mjs.

SENIOR YEAR

3. Clinic and Conference at the Cook County Hospital.—Topics: Autumn: Infectious Diseases; Winter, Respiratory Diseases; Spring, Diseases of the Heart and Blood Vessels. Limited to 10 students. Tu., F., 9:00–11:00. 36 hours. .4Mj. [Not given in 1921–22].

3A. Clinic and Conference Course at the Cook County Hospital.—Topics: Autumn: Infectious Diseases; Winter: Respiratory Diseases; Spring: Diseases of the Heart and Blood Vessels. Limited to 10 students. M., Th., 2:00–4:00. 36 hours. .4Mj. Professor Miller.

3B. Clinic and Conference Course at the Cook County Hospital.—Topics: Autumn: Infectious Diseases; Winter: Respiratory Diseases; Spring: Constitutional Diseases. Limited to 10 students. Tu., Fri., 2:00–4:00. 36 hours. .4Mj. Professor Capps.

3C. Clinic and Conference Course at the Cook County Hospital.—Topics: Spring: Diseases of the Alimentary Tract and Liver. Limited to 10 students. M., 9:00–11:00; Th., 9:00. 36 hours. .4Mj. Professor Tieken. [Not given in 1921–22.]

3E. Clinic and Conference Course at the Cook County Hospital.—Topics: Summer and Spring: Diseases of the Alimentary Tract and Liver; Winter: Diseases of the Blood and Ductless Glands. Limited to 10 students. M., Th., 9:00–11:00. 36 hours. .4Mj. Dr. L. C. Gatewood.

3F. Clinic and Conference Courses at the Cook County Hospital.—Topics: Autumn, Respiratory Diseases; Spring: Diseases of the Heart and Blood Vessels. Limited to 10 students. Wed., S., 11:00–1:00. 36 hours. .4Mj. Assistant Professor Loeb.

3G. Clinic and Conference Course at the Cook County Hospital.—Topics: Winter: Respiratory Diseases. Limited to 10 students. Tu., F., 9:00–11:00. 36 hours. .4Mj. Associate Professor Irons.

3H. Clinic and Conference Course at the Cook County Hospital.—Topics: Summer and Winter: Diseases of the Blood and Ductless Glands. Limited to 10 students. Tu., F., 2:00–4:00. 36 hours. .4Mj. Dr. Arthur F. Byfield.

3J. Clinic and Conference Course at the Cook County Hospital.—Topics: Summer, Autumn, Winter: Diseases of the Heart and Blood Vessels. Limited to 10 students. Tu., F., 11:00–1:00. 36 hours. .4Mj. Assistant Professor Kerr.

3K. Clinic and Conference Course at the Cook County Hospital.—Topics: Autumn: Infectious Diseases; Winter: Nephritis and Allied Conditions; Spring: Respiratory Diseases. Limited to 10 students. Tu., Fri., 2:00–4:00. 36 hours. .4Mj. Assistant Professor Koessler.

3L. Clinic and Conference Course at the Michael Reese Hospital.—Autumn: Infectious Diseases; Spring: Diseases of the Heart and Blood Vessels. W., Sat., 11:00–1:00. 36 hours. .4Mj. Limited to 10 students. Assistant Professor Hamburger.

3P. A Clinic and Conference Course at the Cook County Hospital.—Topic: The Contagious Diseases. Limited to 15 students. Autumn, Winter, and Spring, W., Sat., 11:00–1:00. 48 hours. .4Mj. Assistant Professor Hoyne.

3R. Clinic and Conference Course at the Cook County Hospital.—Winter: Tuberculosis, M. and Th., 2:00–4:00. Limited to 10 students. 48 hours. .4Mj. Dr. George Coleman.

3S. Clinic and Conference Course at the Lutheran Deaconess Hospital, 1138 North Leavitt Street.—Summer and Autumn, Diagnostic Methods. Limited to 10 students. Wed., Sat., 9:00–11:00. 48 hours. .4Mj. Assistant Professor Jacque.

3X. Clinic and Conference Course at the Central Free Dispensary.—Topic: Diagnostic Methods. Autumn, Winter, and Spring, M., Th., 9:00–11:00. 48 hours. .4Mj. Dr. Greer.

***6A. Clinical Course in the Presbyterian Hospital.**—Senior students will be assigned each Quarter to the medical services in the Presbyterian Hospital and to the service in diseases of children and the Durand Hospital of the

* Each student is required to purchase or rent for this course a microscope, and to purchase a hemocytometer and a Talquist scale or some other hemoglobinometer.

Memorial Institute for Contagious Diseases, for a period of one quarter, to serve daily as clinical clerks and laboratory assistants. Each student so assigned will serve in the clinical laboratory of the hospital and in the wards from 8:00–11:00 daily. Approximately 200 hours. 1.6Mjs. Assistant Professor Dick and Dr. Shafer.

6B. Clinical Course at the Central Free Dispensary.—Topic: Diabetes. Limited to two students. Prerequisites: Course 6 or 6A, or 1.2Mjs. taken from Courses 3 to 3P. Each Quarter, Th., 9:00–11:00. .2Mj. Associate Professor Woodyatt and Dr. Keeton.

6C. Clinical Course at the Central Free Dispensary.—Topic: Diseases of the Heart and Blood Vessels. Limited to four students. Prerequisites: same as for 6B. Each Quarter, W., S., 9:00–11:00. .4Mj. Professor Slaymaker and Drs. Fred M. Smith and Gardner.

6D. Clinical Course at the Central Free Dispensary.—Topic: Diseases of the Alimentary Tract. Limited to two students in each section. Prerequisites: same as for 6B. Each Quarter, M., Th., 9:00–11:00. .4Mj. Section 1, Dr. Abbott; Section 2, Dr. L. C. Gatewood; Section 3, Dr. Marie Ortmayer.

6E. Clinical Course at the Central Free Dispensary.—Topic: Diseases of the Kidney. Limited to two students. Prerequisites: same as for 6B. Each Quarter, W., S., 9:00–11:00. .4Mj. Dr. Rinder.

JUNIOR OR SENIOR YEAR

8. Clinical Medicine.—A clinical and conference course in general medicine, with special reference to Diseases of the Alimentary Tract. M., Th., 9:00–11:00. 48 hours. .4Mj. Summer, Dr. Abbott.

9. Clinical Medicine.—Clinical and conference course in Diseases of the Blood and Ductless Glands. M., Th., 9:00–11:00. 48 hours. .4Mj. Autumn, Assistant Professor Washburn.

9A. Clinical Medicine.—A clinical and conference course in Diseases of the Respiratory Tract and Infectious Diseases. M., Th., 9:00–11:00. 48 hours. .4Mj. Winter, Associate Professor Post.

10. Clinical Medicine.—A clinical and conference source in Diseases of the Kidney. M., Th., 9:00–11:00. 48 hours. .4Mj. Spring, Associate Professor Post.

11. Clinical Medicine.—A clinical and conference course in medicine. Tu., F., 9:00–11:00. Each course 48 hours. .4Mj.

Summer: Diseases of the Blood, Ductless Glands, and Metabolism. Drs. Greer and Coleman.

Autumn: Diseases of the Heart and Blood Vessels. Professor Herrick.

Winter: Diseases of Metabolism. Associate Professor Woodyatt.

Spring: Infectious Diseases. Associate Professor Irons.

11A. A clinical and demonstration course in Diseases of the Heart and Blood Vessels, including Electrocardiography. Limited to 8 students. Tu., F., 9:00–11:00. Each course 48 hours. .4Mj. Mj. Spring, Dr. Fred M. Smith.

13. Clinical Medicine.—A clinical and conference course in medicine. W., Sat., 9:00–11:00. Each course 48 hours. .4Mj.

Summer: Tuberculosis in its various aspects, pulmonary, glandular, abdominal, etc., and covering diagnosis, therapy, hygienic principles, and sociology. Assistant Professor Ritter and Dr. Wheaton.

Autumn: Diseases of the Alimentary Tract. Professor Sippy.

Winter: Diseases of the Alimentary Tract. Professor Sippy.

Spring: General Medicine with special reference to Diagnosis. Associate Professor Ralph C. Brown.

23. Therapeutic Clinic.—A medical clinic at the Cook County Hospital, with special reference to Therapeutics. Prerequisite: course III-53. Each Quarter, W., 7:00–9:00 p.m. 24 hours. .2Mj. Professor Tieken.

SENIOR YEAR

27. Industrial Medicine and Surgery.—A clinical and conference course dealing with the Human Maintenance Department in the Industries, including preventive medicine, etc. For details see special bulletin. Limited to 10 students. Tu. and F., 7:00–9:00 P.M. 48 hours. .4Mj. ASSISTANT PROFESSORS MOCK, ALICE HAMILTON, AND DR. ELLIS.

33. Variola (extra-mural).—A clinical course in variola, at the Chicago Isolation Hospital, at intervals as material is afforded. Classes limited to 10 each. .2M. ASSOCIATE CLINICAL PROFESSOR HEMAN SPALDING OR ASSISTANT PROFESSOR HOYNE.

36. Clinical Diagnosis Course.—Advanced work in Clinical Diagnosis, etc. Limited to 4 students. W., 9:00–11:00. 24 hours. .3Mj. Each Quarter, by arrangement in advance, ASSOCIATE PROFESSOR LINNELL.

PEDIATRICS

1. The Principles of Pediatrics.—A conference and practical course comprising the anatomy, physiology, and hygiene of infancy and childhood, the dietetics of infancy. Prerequisite to every other course in pediatrics. Limited to 30 students. Autumn, Tu., F., 8:00, ASSOCIATE PROFESSOR GRULEE AND DR. BACON. 24 hours. .4Mj. Spring, sec. *a*, M., Th., 8:00, DR. PARMELEE; sec. *b*, Tu., Fri., 8:00, ASSISTANT PROFESSOR WINHOLT; sec. *c*, Tu., Fri., 8:00, ASSOCIATE PROFESSOR GRULEE AND DR. BONAR.

6. Dispensary Clinic.—See p. 76; one-fourth of the time allotted to this course is devoted to pediatrics.

6A. Medical Ward Clinic.—See p. 77; one-third of the time allotted to this course is devoted to pediatrics and the contagious diseases.

16. Postnatal Clinic.—A clinical and follow-up course in the care of normal infants. This course affords an opportunity for the student to become familiar with the infant-welfare movement. Limited to 10 students. Tu., F., 9:00–11:00. 48 hours. .4Mj. Each Quarter, DR. STULIK.

16A. The Feeding and Care of Older Children (2 to 6 Years of Age).—A clinical and conference course. Limited to 10 students. Wed., 9:00–11:00. .2Mj. Each Quarter, DR. JOHNSON.

16B. The Feeding and Care of Older Children (6 to 16 Years of Age).—A clinical and conference course. Limited to 10 students. Sat., 9:00–11:00. 24 hours. .2Mj. Each Quarter, ASSISTANT PROFESSOR ALLIN.

18. Pediatric Clinic.—A clinic and conference course at the Presbyterian and Cook County Hospitals. Prerequisite: course 1. W., Sat., 9:00–11:00, 48 hours. .4Mj. Limited to 25 students. Summer, ASSISTANT PROFESSOR WINHOLT; Autumn, Winter, and Spring, ASSOCIATE PROFESSOR GRULEE. Each quarter there will be given two clinical periods on Diseases of the Heart in Children, DRS. SMITH AND GARDNER; one period on Nephritis in Children, DR. RINDER, and one period on Skin and Venereal Diseases in Children, DR. SHAFER.

18A. Pediatric Clinic at the Cook County Hospital.—A clinic and conference course at the Cook County Hospital. Limited to 10 students. Each Quarter, excepting the Autumn, F., 7:00–9:00 P.M. 24 hours. .2Mj. DR. STRAUCH.

18B. Pediatric Clinic at the Cook County Hospital.—A clinical and conference course at the Cook County Hospital. Limited to 10 students. Autumn and Spring Quarters. Tu., 9:00–11:00. 24 hours. .2Mj. ASSISTANT PROFESSOR WINHOLT.

18C. Pediatric Clinic at St. Luke's Hospital.—A clinic and conference course at St. Luke's Hospital. Limited to ten students. Summer and Winter. Tu., 9:00–11:00. 24 hours. .2Mj. DR. PARMELEE.

20. Pediatric Clinic at the Cook County Hospital.—A clinical course in the diseases of children, with especial reference to tuberculosis. Limited to 10 students. M., 4:00–6:00. .2Mj. Autumn, DR. MAY MICHAEL.

NERVOUS AND MENTAL DISEASES

3D. Diseases of the Nervous System.—A clinical and conference course in Cook County Hospital. Limited to 10 students. M., Th., 9:00–11:00. 48 hours. .4Mj. Autumn, Winter, Spring, Dr. Favill.

19. Psychology as Related to Psychiatry.—A lecture, demonstration, and conference course in psychology as an introduction to clinical psychiatry. Tu., Th., 8:00–9:00. 24 hours. .4Mj. Spring, Associate Professor Kuh.

19A. Pathology of the Nervous System.—A demonstration, clinical, and conference course, including discussion of symptoms depending upon various pathologic changes in the nervous system. Prerequisite: one clinical course in Nervous Diseases. Tu., Th., 8:00. 24 hours. .4Mj. Winter, Professor Rothstein.

21. Diseases of the Nervous System.—A clinical course in the amphitheater of Senn Hall. Limited to 40 students. M., Th., 9:00–11:00. 48 hours. .4Mj. Summer, Professor Bassoe.

21F. Diseases of the Nervous System.—A clinical and conference course at the Cook County Hospital and Senn Hall. Limited to 40 students. .4Mj. Autumn, Associate Professor Hall.

21W. Diseases of the Nervous System.—Similar to course 21. Limited to 40 students. .4Mj. Winter, Associate Professor Gill.

21S. Diseases of the Nervous System.—Similar to course 21. Limited to 40 students. .4Mj. Spring, Professor Rothstein.

22. Psychiatry.—A clinical and conference course at the Cook County Hospital. Topic: Insanity. Conference: M., 4:00–6:00; Th., 4:00–5:00. 36 hours. .4Mj. Autumn and Winter, Associate Professor Kuh.

22A. A Clinical and Conference Course in Psychiatry at the Cook County Psychopathic Hospital.—Summer and Spring, Tu., F., 4:00–6:00. .4Mj. Assistant Professor Neymann.

VIII. DEPARTMENT OF SURGERY

OFFICERS OF INSTRUCTION

Arthur Dean Bevan, M.D., *Nicholas Senn* Professor* and Head of the Department of Surgery.

William Thomas Belfield, M.D., Professor of Surgery (Genito-urinary).

Dean DeWitt Lewis, M.D. Sc.D., Professor of Surgery.

Charles Aubrey Parker, M.D., Associate Professor of Surgery (Orthopedic).

Carl Braden Davis, M.D.; Dallas Baldwin Phemister, M.D.; Paul Oliver, M.D.; George Gilbert Davis, M.D.; Victor Lupu Schrager, M.D.; Kellogg Speed, M.D.; Vernon Cyrenius David, M.D., Assistant Professors of Surgery.

Frederick Brown Moorehead, M.D., D.D.S., Assistant Professor of Surgery (Oral and Dental).

Isabella Herb, M.D., Assistant Professor of Surgery (Anesthetics).

Robert Harry Herbst, M.D.; Herman Louis Kretschmer, M.D., Assistant Professors of Surgery (Genito-urinary).

Edward James Lewis, M.D.; Roger Throop Vaughan, M.D.; Gatewood, M.D.; Albert Horr Montgomery, M.D.; Franklin B. McCarty, M.D.; Edwin Morton Miller, M.D.; Golder L. McWhorter, M.D., Ph.D.; Instructors in Surgery.

* The *Nicholas Senn* Professorship was founded in 1898 by the late Professor Nicholas Senn, with a gift to the college of $25,000 for the promotion of higher medical education and the advancement of medical science. He was professor of the principles of surgery in Rush Medical College from 1889 to 1891 and professor of surgery from 1891 to 1908.

Alvin Thompson, M.D., Instructor in Surgery (Genito-urinary).
Cassie Bell Rose, M.D., Instructor in Surgery (Radiology).
William McMicken Hanchett, M.D., Associate in Surgery.
Hugh J. Polkey, M.D., Associate in Surgery (Genito-urinary).
Lee Festus Watson, M.D.; Hillier L. Baker, M.D.; Jay Ireland, M.D., Ernest Charles McGill, M.D.; Henry Hoyt Cox, M.D., Assistants in Surgery.
Robert O. Ritter, M.D.; Jacob Myers, M.D., Elvin J. Berkheiser, M.D.; Assistants in Surgery (Orthopedic).
Thomas Cottrell, M.D.; Walter Thomas Venn, M.D.; Melbourne Clements, M.D.; Harold Lewis Morris, M.D., Assistants in Surgery (Genito-urinary).
Francis Howe Straus, M.D., *Nicholas Senn* Fellow in Surgery; Assistant House Surgeon, Presbyterian Hospital.
Carl Richard Wagner, M.D., *Thompson-Bevan* Fellow in Surgery; Assistant House Surgeon, Presbyterian Hospital.
Martin Carl Lindem, M.D., *Frances A. Hardy* Fellow in Surgery; Assistant House Surgeon, Presbyterian Hospital.

EXTRA-MURAL INSTRUCTORS

Daniel N. Eisendrath, M.D., Clinical Professor of Surgery, Cook County Hospital.
Edwin Warner Ryerson, M.D., Associate Clinical Professor of Surgery (Orthopedic), Home for Destitute Crippled Children.
Wallace Blanchard, M.D., Assistant Clinical Professor of Surgery (Orthopedic), Home for Destitute Crippled Children.
Hugh McKenna, M.D., Assistant Clinical Professor of Surgery, Cook County Hospital.
David C. Strauss, M.D., Assistant Professor of Surgery, Cook County Hospital.

INTRODUCTORY

A total of 5½ majors in surgery is required. The following subjects are prerequisite to other courses and to final examination: Surgery Anatomy and Operative Surgery on the Cadaver, .6; Principles of Surgery and Surgical Pathology, 1; Clinic and Conference Courses, including one course on each of the divisions of Regional Surgery: (*a*) Head, Neck, and Thorax; (*b*) Abdomen; (*c*) Extremities, 1.2; Genito-urinary, .4; Orthepodic, .4; Surgical Dispensary, .4; Operative Surgery on Animals, .3; Presbyterian Hospital Ward Work, .4; anesthetics, .1. An optional .8 major, elected as the student desires, and devoted either to laboratory or to clinical work, is recommended.

COURSES OF INSTRUCTION

I. JUNIOR YEAR

1. Principles of Surgery and Surgical Pathology.—A conference and laboratory course. M., Th., 11:00–1:00. 36 hours. .5Mj. Autumn and Spring, Assistant Professor Phemister and Drs. Gatewood, Miller, McCarty, McWhorter, and Hanchett.

2. Principles of Surgery and Surgical Pathology.—A conference and laboratory course. 36 hours. .5Mj. Winter; sec. *a*, M. and Th., 11:00–1:00; sec. *b*,

Tu. and Fri., 11:00–1:00; Summer, M. and Th., 11:00–1:00, Assistant Professor Phemister and Drs. Gatewood, Miller, McCarty, McWhorter, and Hanchett.

3. Surgical Anatomy and Operative Surgery on the Cadaver.—A demonstration and operative course. Sec. *a*, M., Th., 11:00–1:00; sec. *b*, Tu., F., 11:00–1:00. 48 hours. .6Mj. Winter and Spring, Assistant Professor Carl B. Davis and Drs. Gatewood, Montgomery, McCarty, and McWhorter.

5. Clinical Surgery (Central Free Dispensary).—Including bandaging, surgical dressings, and surgical appliances. Daily, 11:00–1:00. 48 hours. .4Mj. Each Quarter throughout the year. Sec. *a*, M., Th.; sec. *b*, Tu., F.; sec. *c*, W., Sat. Each section limited to 10 students. Assistant Professor David and Drs. Gatewood, Montgomery, McCarty, Miller, McWhorter, Watson, Ireland, Cox, and McGill.

This course may be elected by Junior students after one quarter's residence in the clinical years during which other courses in surgery have been taken.

14. Orthopedic Surgery.—A clinical course at the Home for Crippled Children, 1653 Park Avenue, Summer, Autumn, Winter, and Spring. 48 hours. .4Mj. Sec. *a*, M., Th., 2:00–4:00; sec. *b*, Tu., F., 2:00–4:00; sec. *c*, W., Sat., 2:00–4:00, Assistant Professor Parker and Drs. Myers and Berkheiser.

II. JUNIOR AND SENIOR YEARS

6. Clinical Surgery.—A clinical and conference course in general surgery, with special reference to and examination in the surgery of the abdomen. This course includes instruction in the administration of anesthetics. 11:00–1:00, M. and Th., Tu. and F., 48, 60, or 96 hours. .4, .6, or .8Mj. Autumn, Professor Bevan, Professor Lewis, Assistant Professors Carl B. Davis, Phemister, and Assistants.

8. Clinical Surgery.—A clinical and conference course in general surgery, with special reference to and examination in the surgery of the head, neck, and thorax. This course includes instruction in the administration of anesthetics. M. and Th., Tu. and F., 11:00–1:00. 48, 60, or 96 hours. .4, .6, or .8Mj. Winter, Professor Bevan, Professor Lewis, Assistant Professors Carl B. Davis and Phemister and Assistants.

10. Clinical Surgery.—A clinical and conference course in general surgery, with special reference to and examination in surgery of the extremities. This course includes instruction in the administration of anesthetics. M., Tu., Th., and F., 11:00–1:00. 48, 60, or 96 hours. .4, .6, or .8Mj. Spring, Professor Bevan, Professor Lewis, Assistant Professors Carl B. Davis, Phemister, and Assistants.

12. Clinical Surgery.—A clinical and conference course in general surgery. This course includes instruction in the administration of anesthetics. M., Tu., Th., and F., 11:00–1:00. 48, 60, or 96 hours. .4, .6, or .8Mj. Summer, Professor Bevan, Professor Lewis, Assistant Professors Carl B. Davis, Phemister, and Assistants.

Laboratory and research work in surgical pathology may be elected by a limited number of students in the laboratories of Professor Bevan, and credit in proportion to the character and length of course may be granted, but not to exceed in any one quarter .4Mj.

12A. Clinical Course in the Presbyterian Hospital.—Thirty students will be assigned to the clinical services in the hospital. Each Quarter. 48 hours. .4Mj. Sec. *a*, M. and Th.; sec. *b*, Tu. and F.; sec. *c*, W. and Sat.

16. A Practical Course in Operative Surgery on Animals.—Given to the class in sections. Limited to 32 students. Sec. *a*, Tu., 11:00–1:00; sec. *b*, F., 11:00–1:00. 24 hours. .2Mj. Summer and Autumn, Assistant Professors Phemister and David and Drs. Gatewood, Montgomery, Miller, McCarty, and McWhorter.

17. Genito-urinary Diseases (Central Free Dispensary).—A clinical and conference course in diseases of the genito-urinary tract. Sec. *a*, M., Th.; sec. *b*, Tu., F.; sec. *c*, W., Sat., 4:00–6:00. 48 hours. .4Mj. Summer, Autumn, Winter, and Spring, Assistant Professors Herbst and Kretschmer, and Drs. Thompson, Polkey, Cottrell, Venn, Clements, and Morris.

18. Clinical Course at the Cook County Hospital.—Class limited to 10 students. Tu., 11:00–1:00. 24 hours. .2Mj. Autumn, Winter, and Spring, Assistant Professor D. C. Strauss.

19. Clinical Course at the Cook County Hospital.—Topic: Fractures, for one quarter; Surgery of Children, for one quarter. F., 2:00–4:00. 24 hours. .2Mj. Autumn, Winter, Spring, Assistant Professor Kellogg Speed.

20. Clinical Course at the Cook County Hospital.—Class limited to 10 students. F., 11:00–1:00. 24 hours. .2Mj. Autumn and Winter, Assistant Professor David; Summer and Spring, Dr. E. J. Lewis.

21. Clinical Course at the Cook County Hospital.—W., 2:00–4:00. 24 hours. .2Mj. Autumn, Winter, and Spring, Clinical Professor Eisendrath.

22. Clinical Course at the Cook County Hospital.—Class limited to 20 students. Tu., 7:00–9:00 p.m. 24 hours. .2Mj. Each Quarter. Dr. Vaughan.

23. Clinical Course at the Cook County Hospital.—Sat., 2:00–4:00. 24 hours. .2Mj. Each Quarter. Autumn, Winter, and Spring, Assistant Professor Geo. G. Davis.

24. Clinical Course at the Cook County Hospital.—Class limited to 20 students. W., 7:00–9:00 p.m. 24 hours. .2Mj. Autumn, Winter, and Spring, Assistant Professor Oliver.

25. Orthopedic Clinic at the Cook County Hospital.—Clinical course, with special reference to the orthopedic affections of adults. Mon., 2:00–4:00. 24 hours. .2Mj. Each Quarter, Assistant Professor Parker.

26. Clinical Course at the Cook County Hospital.—Class limited to 10 students. Th., 2:00–4:00. 24 hours. .2Mj. Winter and Spring. Assistant Clinical Professor Hugh McKenna.

30. Anesthetics.—A conference and demonstration course on the administration of anesthetics. Sat., 2:00. .1Mj. Autumn and Spring, First Term, Assistant Professor Herb.

33. Roentgenology.—A conference and demonstration course on the use of the X-ray in diagnosis and treatment, and on the general principles of radiographic technique. Limited to 15 students. W. and Sat., 2:00. .2Mj. Autumn, Winter, and Spring, Second Term, Dr. Rose.

34. Genito-urinary Surgery.—A clinical and conference course in diseases of the genito-urinary tract. W., 11:00–1:00. 24 hours. .2Mj. Autumn. Assistant Professors Herbst and Kretschmer.

35. Oral and Dental Surgery.—A clinical and conference course on the surgery of the mouth and teeth. W., 11:00–1:00. 24 hours. .2Mj. Winter, Assistant Professor Moorehead.

III. POSTGRADUATE

29. Operative Surgery for Postgraduates.—On dogs, surgery of the abdomen. On the cadaver, surgery of the head, neck, thorax, and extremities. Four weeks, beginning July 1 and August 1. M., W., F., 4:00–6:00. Other days or months by special arrangement. Four or 8 men. Fee, $50.00. Dr. McWhorter.

IX. DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

OFFICERS OF INSTRUCTION

John Clarence Webster, M.D., F.R.C.P. (Edin.), Professor Emeritus of Obstetrics and Gynecology.

Noble Sproat Heaney, M.D., Associate Professor and Acting Head of the Department of Obstetrics and Gynecology.

Rudolph Wieser Holmes, M.D., Associate Professor of Obstetrics and Gynecology.

Carey Culbertson, M.D.; W. George Lee, M.D.; Joseph L. Baer, M.D.; William Francis Hewitt, S.B., M.D., Assistant Professors of Obstetrics and Gynecology.

Frederick William Rohr, M.D.; Marie Mabel Mathies, M.D.; Kathleen Regan Harrington, S.B., M.D.; Julius Ernest Lackner, M.D., Associates in Obstetrics and Gynecology.

Paul C. Fox, M.D.; Aaron Elias Kanter, S.M., M.D.; Aldo K. Germann, S.B., M.D.; Assistants in Obstetrics and Gynecology.

INTRODUCTORY

The subjects of Obstetrics and Gynecology are taught in the Junior and Senior years in laboratory, recitation, and conference courses, in Dispensary and Hospital clinics, and in the conduct of labor in the homes of patients. The total requirement is 3 majors, at least 2 majors of which must be taken in obstetric courses.

COURSES OF INSTRUCTION

OBSTETRICS

I. JUNIOR YEAR

1. Conference and Demonstration Course in Obstetrics and Gynecology.—The female pelvis and genitalia, puberty and menstruation, anatomy, physiology, the diagnosis of pregnancy, management of normal pregnancy, physiology and clinical course of normal labor, and the puerperium, mechanism in vertex presentations. Limited to 35 students in each section. Autumn and Spring, Wed., Sat., 11:00–1:00. .6Mj. (.4 Obstetrics). Assistant Professors Culbertson, Lee, Baer, and Hewitt, and Dr. Lackner.

2. Conference and Demonstration Course in Obstetrics.—Mechanism in face, brow, pelvic, and shoulder presentations, the new-born child, multiple pregnancy, obstetric operations and manipulations, induced termination of pregnancy, forceps, version, operations for enlarging the pelvic diameters, caesarean section, embryotomy, manikin demonstrations. Prerequisite: Course 1. Limited to 35 students in each section. Winter, Spring, and Summer Quarters, Wed., Sat., 11:00–1:00. .6Mj. Assistant Professors Lee, Baer, and Hewitt, and Drs. Rohr, Matthies and Lackner.

3. A Conference Course in Obstetrics.—Pathology of pregnancy, the toxemias, ectopic gestation, premature expulsion and diseases of the ovum, pathology of labor, anomalies of expellent forces, soft passages, bony pelvis and fetus, the hemorrhages, injuries of birth canal, prolapse of cord, pathology of puerperium, diseases and abnormalities, sepsis. Prerequisite: Course 2. Spring for Juniors, Associate Professor Holmes; Autumn for Seniors, Assistant Professor Hewitt, Tu., F., 4:00–6:00. .6Mj.

3A. Conference and Clinical Course in Obstetrics at the Cook County Hospital.—Tu., F., 2:00–4:00. 48 hours. .4Mj. Autumn, Winter, and Spring, Assistant Professor Lee.

5. Clinical Obstetrics.—In the maternity department of the Presbyterian Hospital, Chicago Lying-in Dispensary, Central Free Dispensary, and Michael Reese Hospital. Attendance upon cases of confinement in various hospitals and at the homes of patients is required of each student before graduation. Each student will be summoned to cases at the time of delivery and will attend the patients during and after delivery under supervision. Clinical records must be

kept by students and certificates obtained. Prerequisite: courses 1, 2, 3, and 4A. .4Mj. Throughout the year. Associate Professor Heaney, Assistant Professor Hewitt, and Dr. Rohr. *Nurses:* Lelin Townsend and Mable W. Hubbard.

6. Laboratory and Demonstration Course.—A gross and microscopic study of the female genitalia, both normal and pathologic, including the changes found in menstruation and in pregnancy. Limited to 12 students. Each Quarter, Mon., Thur., 11:00–1:00. 48 hours. .4Mj. Assistant Professors Culbertson and Hewitt, and Drs. Rohr, Kanter, and Harrington.

8. Dispensary Clinics.—Conferences in practical gynecology. Prerequisite: course 1 or 6. Limited to 5 in each section. 24 hours. .4M. Each Term throughout the year. Sec. *a*, M., Th., 11:00–1:00; sec. *b*, Tu., F., 11:00–1:00; sec. *c*, W., Sat., 11:00–1:00.

III. SENIOR YEAR

9. College Clinics.—In Gynecology and Obstetrics. Prerequisite: course 1 or 6. 48 hours. .4Mj. Each Quarter throughout the year. W., Sat., 11:00–1:00, Associate Professor Heaney and Assistant Professor Culbertson.

10. Clinical Course at the Cook County Hospital.—A clinical course in Gynecology. Limited to 10 students. Tu., F., 11:00–1:00. 24 hours. .4Mj. Autumn, Winter, and Spring, Assistant Professor Culbertson.

11. Special Laboratory Work.—For a limited number of students selected by the Department staff.

X. DEPARTMENT OF LARYNGOLOGY AND OTOLOGY

OFFICERS OF INSTRUCTION

John Edwin Rhodes, A.M., M.D.; George Elmer Shambaugh, Ph.B., M.D., Professors of Laryngology and Otology.

George Abraham Torrison, A.B., M.D.; Elmer Lawton Kenyon, A.B., M.D.; David Fiske, M.D.; Thomas Williams Lewis, S.B., M.D.; Robert Sonnenschein, M.D.; Daniel Bernard Hayden, M.D., Assistant Professors of Laryngology and Otology.

Henry H. Everett, M.D.; John Charles Williams, M.D.; Edwin McGinnis, A.B., M.D., Instructors in Laryngology and Otology.

Arthur Churchill Strong, M.D.; Mryon Ellis Kahn, M.D., Associates in Laryngology and Otology.

Linn Frederick McBride, M.D., Assistant in Laryngology and Otology.

Henry Boettcher, M.D., Instructor (extra-mural) in Laryngology and Otology.

INTRODUCTORY

Every physician before beginning the practice of medicine should have some working knowledge of the whole field including the specialties. These courses are not designed for specialists or for preparing students to do the work of the specialist. The chief aim is to give the student an insight into the problems with which the specialist has to deal and to give them such practical training as will fit them to make the ordinary examinations of the ear, nose, and throat necessary in the general study of cases.

A total of 1.2 Mjs. is required in this department. Course 1 is prerequisite for Course 2 and Course 2 is prerequisite for the clinical courses under 3A and 3B.

COURSES OF INSTRUCTION

1. Nose, Throat, and Ear.—Introductory lecture and conference course for Juniors. Prerequisite for courses 2 and 3. M., Th., 4:00. .4Mj. Summer, Drs. McGinnis and Strong; Autumn, Assistant Professors Sonnenschein and Hayden; Winter, Drs. McBride and McGinnis; Spring, Assistant Professor Fiske and Dr. Strong. Two hours will be devoted to the defects of speech by Assistant Professor Kenyon.

2. Nose, Throat, and Ear.—Clinical and practical courses in the Dispensary in the technique of examination and in the objective study of the normal and the commoner pathological conditions of the nose, throat, and ear; also intubation of the larynx; for Juniors and Seniors. Sections limited to 10 students. Prerequisite for the succeeding clinical courses. Each Quarter, 2:00–4:00. 48 hours. .4Mj. Sec. *a*, M., Th.; sec. *b*, Tu., F.; sec. *c*, W., Sat.

3A. Clinical Course: Diseases of the Nose and Throat.—Prerequisite: courses 1 and 2. W., 2:00–4:00. 24 hours. .2Mj. Summer, Dr. McGinnis. Autumn, Assistant Professor Lewis. Winter, Assistant Professor Torrison. Spring, Assistant Professor Kenyon. One clinic period each quarter will be devoted to bronchoscopy and esophagoscopy by Dr. McBride, and one period to defects of speech by Assistant Professor Kenyon.

3B. Clinical Course: Diseases of the Ear.—Prerequisite: courses 1 and 2, M., Th., 2:00–3:00. 24 hours. .2Mj. Summer, Autumn, Winter, and Spring. Professor Shambaugh, Assistant Professors Fiske and Hayden.

4. Surgical Anatomy of the Nose, Throat, and Ear.—A course for advanced students and practitioners. 24 hours. .2Mj. Autumn and Spring, M., and Th., 4:00 to 5:00, Assistant Professor Hayden and Dr. McBride.

5. Student Assistant in the Dispensary.—One student for each section, from either the Junior or Senior class, may register each Quarter for work as an assistant in the Dispensary. Sec. *a*, M., Th.; sec. *b*, Tu.; sec. *c*, W., Sat., 2:00–4:00. 48 hours. .4Mj.

6. Defects of Speech.—A lecture and clinical course offered to graduate students and to Seniors who have completed 1.2Mjs. of work in the Department. From the standpoint of the anatomy and physiology of speech production of the important disorders of speech are considered, including defects of articulation, stammering, the aphonias, organic and functional, the difficulties of public speakers and singers, etc. 8 to 12 hours. 1Mj. Summer, Assistant Professor Kenyon.

GRADUATE COURSE

The position of Clinical Assistant in the Dispensary is open for graduate physicians who desire to prepare for special practice. This course includes practical work in the Dispensary each afternoon for a period of one year. Opportunity is given for work during the forenoons of this period in the study of the fundamental sciences necessary in the preparation for special practice.

XI. DEPARTMENT OF OPHTHALMOLOGY

OFFICERS OF INSTRUCTION

William Hamlin Wilder, M.D., Professor and Head of the Department of Ophthalmology.

John Bernard Ellis, M.D., Associate Professor of Ophthalmology.

Charles Gilchrist Darling, M.D.; William George Reeder, M.D., Assistant Professors of Ophthalmology.

Georgiana Dvorak Theobald, M.D.; Thomas Dyer Allen, M.D., Associates in Ophthalmology.

EARLE B. FOWLER, M.D.; HERMAN PORTER DAVIDSON, M.D., Assistant in Ophthalmology.

INTRODUCTORY

UNDERGRADUATE COURSES

A total of .8 major in Ophthalmology is required for graduation.

The work in this Department is arranged so that the student first gets a general survey of the subject through lecture and recitation courses.

In the same quarter, or the following one, through the courses in "practical ophthalmology" he is taught the methods of examination of the eye by various tests, the necessary manipulations for treatment, and the use of the ophthalmoscope by practical exercises on schematic and living eyes. For this work each student must provide himself with an ophthalmoscope.

All this is *preliminary* and *prerequisite* to the clinical courses, in which the student is given the privilege of examining the cases, of studying the progress of the diseases and the effect of the treatment from day to day, and also of witnessing the technique of the operations on the eye. These clinics are on the conference plan, and each exhibition of cases is followed by a discussion on the etiology, pathology, symptomatology, and treatment of the diseases under observation.

Practical courses in refraction are offered for undergraduates and also for practitioners of medicine, in which the methods of fitting glasses are taught.

Special courses for small classes on the normal and morbid anatomy, histology, and bacteriology of the eye are made partticularly instructive by the exhibition of anatomical preparations and microscopic slides.

COURSES OF INSTRUCTION

1. Diseases of the Eye.—A lecture and recitation course. 24 hours. .4Mj. Summer (Seniors), Tu., F., 4:00, ASSISTANT PROFESSOR DARLING; Autumn (Seniors), Tu., F., 4:00, ASSISTANT PROFESSOR REEDER; Winter (Seniors), M., Th., 4:00; Spring (Juniors), M., Th., 4:00, ASSISTANT PROFESSOR ELLIS.

2. Practical Ophthalmology in the Central Free Dispensary.—Limited to 10 students in each section. Each student must provide himself with an ophthalmoscope. Each Term of every Quarter. 12 hours. .2Mj. sec. *a*, M., Th., 2:00–3:00, Winter and Spring, ASSISTANT PROFESSOR ELLIS; sec. *b*, Tu., F., 3:00–4:00, Winter, ASSISTANT PROFESSOR REEDER; Autumn and Spring, ASSISTANT PROFESSOR DARLING; sec. *c*, W., Sat., 2:00–3:00, each Quarter, DR. ALLEN.

Courses 1 and 2 may be taken in the same quarter, but both are prerequisite to all clinical courses.

3. Clinical, Conference, and Lecture Course.—Prerequisite: courses 1 and 2. Limited to 20 students. Each Quarter, M., Th., 3:00–4:00. 24 hours. .2Mj. Summer, ASSISTANT PROFESSOR REEDER; Autumn, Winter, and Spring, PROFESSOR WILDER.

4. Clinical Course on the Eye at the Illinois Charitable Eye and Ear Infirmary.—Prerequisite: courses 1 and 2. Limited to 10 students each. Each Quarter. F., 4:00–6:00. 24 hours. .2Mj.

5. Clinical Courses at the Cook County Hospital.—In these courses special attention is given to the relation of the eye to general disease. Prerequisite: courses 1 and 2. Limited to 8 students. 24 hours. .2Mj. Summer, Winter, and Spring, Wed., 2:00–4:00, ASSISTANT PROFESSOR DARLING.

6. Normal and Pathological Anatomy and Bacteriology of the Eye.—A course for advanced students and practitioners. Limited to 5 students. Autumn, 3 days each week. Hours to be arranged. DR. THEOBALD.

6A. Special Work for Student Assistants in the Dispensary.—Junior or Senior students who have had courses 1, 2 and a clinical course may register as follows:

Monday, Thursday	Two students	2:00–4:00
Tuesday, Friday	Two students	2:00–4:00
Wednesday, Saturday	Two students	2:00–4:00

Each Quarter. .4Mj.

Similar opportunity is afforded at the Cook County Hospital Out-Patient Clinic from 2:00–4:00 by arrangement with Assistant Professor Darling.

8. Refraction.—A special course for practitioners. Limited to 6 students. Tuition, $25.00. Summer and Spring. Hours to be arranged.

GRADUATE COURSE

Opportunity for graduate work is offered to a limited number of physicians desiring to fit themselves for the special practice of Ophthalmology. The work in such a course must be for a period of at least one year, and will include the study of fundamental subjects, which can be done in the forenoon, and the study of clinical subjects which can be done at the Dispensary in the afternoon, the student engaging in the practical work of the clinic under direction.

XII. DEPARTMENT OF SKIN AND VENEREAL DISEASES

OFFICERS OF INSTRUCTION

Oliver Samuel Ormsby, M.D., Professor and Head of the Department of Skin and Venereal Diseases.

Ernest Lewis McEwen, S.M., M.D., Associate Professor of Skin and Venereal Diseases.

Edward Allen Oliver, M.D.; James Herbert Mitchell, M.D., Assistant Professors of Skin and Venereal Diseases.

Arthur Norton Mackey, M.D.; John F. Waugh, M.D., Instructors in Skin and Venereal Diseases.

Bertha Meserve Shafer, M.D.; Clark Wylie Finnerud, M.D., Associates in Skin and Venereal Diseases.

Clifford J. Pearsall, M.D., Physician in Charge of Dermatological Dispensary.

Julius M. Retinger, M.D., Research Fellow in Dermatology (*James Nevins Hyde* Memorial Fund).

Laura Pugh, Social Service Worker in the Department of Skin and Venereal Diseases.

INTRODUCTORY

The work of this Department is elective and offered to members of the Senior class. Instruction is given by clinical teaching in the College Amphitheater, the Dispensary, and the Cook County Hospital by recitations and by demonstrations to small classes of clinical, bacteriologic, and pathologic phenomena.

Instruction in this Department is supplemented by ample use of the large collection of dermatological plates, atlases, and photographs arranged in cases in proximity to the upper amphitheater; also by the use of the Baretta Models procured in Paris for use of this Department.

COURSES OF INSTRUCTION

1. Skin, Genito-urinary, and Venereal Diseases.—A recitation and conference course given to the class in sections not exceeding 25. Tu., F., 4:00–5:00. 24 hours. .4Mj. Summer, Dr. Finnerud; Autumn, Assistant Professor Mitchell; Winter, Dr. Shafer; Spring, Assistant Professor Oliver.

2. Clinical Course.—A clinical course on the subject of Skin, Genito-urinary, and Venereal Diseases. The clinic has been conducted in the College for many years and is attended by a large number of out-patients of both sexes and all ages. Each Quarter throughout the year. Tu., F., 2:00–4:00. 48 hours. .4Mj. Autumn and Spring, Professor Ormsby; Summer, Assistant Professor Mitchell; Winter, Associate Professor McEwen.

3. Clinical Course in the Central Free Dispensary.—A clinical course given to the class in small sections in the dermatological and genito-urinary departments of the Central Free Dispensary. The student is here brought in personal contact with patients and required to examine and prescribe for them as in private practice. Limited to 10 students in each section. Each term throughout the year, daily, 2:00–4:00. 24 hours. .2Mj. Sec. *a*, M., Th., Dr. Waugh; sec. *c*, W., Sat., Associate Professor McEwen, Autumn, Winter, Spring; Dr. Finnerud, Summer.

4. Student Assistant in the Dispensary.—Provision is made for three students to assist in the Dispensary each Quarter, one M. and Th., one Tu. and F., and one W. and Sat. 48 hours. .4Mj.

4A. Course in Syphilis.—Work as student assistant in the Evening Clinic in the Central Free Dispensary. Opportunity is afforded for special training in the methods of diagnosis and treatment of syphilis. Prerequisites: courses 1 and 2. Limited to 2 students. Each Quarter, Tu., F., 7:00–9:00. .4Mj. Assistant Professor Oliver.

5. Syphilis.—A clinical and lecture course comprising a general survey of the subject of syphilis. Wed., 4:00. 12 hours. .2Mj. Autumn, Winter, and Spring, Associate Professor McEwen.

5A. Cook County Hospital Clinics.—A clinic and conference course at the Cook County Hospital on diseases of the skin and syphilis. M., 2:00–4:00. .2Mj. Autumn, Winter, and Spring, Assistant Professor Oliver.

6. Histopathology and Bacteriology of the Skin.—A demonstration course including instruction and practical work in methods peculiar to the study of cutaneous pathology and bacteriology. Open to practitioners and limited to 8 students. Hours to be arranged. 24 hours. .4M. Summer, Autumn, and Spring, Assistant Professor Mitchell.

7. Serology and Therapeutics of Syphilis.—A laboratory course in the technique of the Wassermann test of the blood and spinal fluid and in the intravenous and intramuscular injections of arsenical and mercurial preparations. Limited to 6 students. First Term, 8:00–10:00, twice weekly; Second Term, 2:00–4:00, twice weekly. .2Mj. Days to be arranged. Autumn, Winter, and Spring, Dr. Shafer.

XIII. GENERAL LECTURES AND OPTIONAL COURSES

1. Medical Jurisprudence.—A lecture course supplemented by recitations and conferences. Hours to be announced. .3Mj. Winter. Assistant Professor Ralph Webster.

2. The History of Medicine (optional).—A lecture course by Professor Dodson. Hours to be announced. .1Mj. Winter.

3. Examinations for Life Insurance (optional).—A lecture and conference course on the nature and purpose of life insurance, the duties and essential qualifications of the examiner for life insurance, etc. 12 hours. Hours to be announced. .2Mj. Winter, Professor Dodson, Associate Professor Linnell, and Assistant Professor Stevenson.

4. Medical Economics (optional).—A lecture course in medical economics and ethics. 6 hours. Hours to be announced. .1Mj. Winter.

5. General Review of the Clinical Branches.—A conference and recitation course affording Senior students an opportunity to review the clinical branches and to co-ordinate their knowledge in preparation for examinations for license or for hospital interneships and for practice of medicine. In sections limited to 30 students each. 8 hours per week for each section. Summer, M., W., Th., sec. *a*, 2:00–4:00; sec. *b*, 4:00–6:00; sec. *c*, 7:00–9:00 P.M. 1Mj.

5A. A continuation of course XIII-5. Autumn. .1Mj.

5B.—A continuation of course XIII-5A. Winter. First Term. .5Mj.

8. Military Medicine.—A course in medicine, hygiene, sanitation, administration, and surgery as related to the medical departments of the army, navy, and marine corps. Hours to be announced.

LABORATORIES, EQUIPMENT, AND LIBRARIES AT THE UNIVERSITY OF CHICAGO

THE HULL BIOLOGICAL LABORATORIES

On December 14, 1895, Miss Helen Culver, of the city of Chicago, presented to the University of Chicago property valued at $1,000,000—the whole gift, according to the terms of the letter of endowment, to be devoted to the increase and spread of knowledge within the field of the biological sciences. From this fund there have been erected, at the north end of the University grounds, four buildings to serve as laboratories for the Anatomical, Botanical, Physiological, and Zoölogical Sciences. Medical instruction is given in the Anatomical, Physiological, and Zoölogical Laboratories.

THE ANATOMICAL LABORATORY

The Anatomical Laboratory is 120 by 50 feet and four stories high, exclusive of basement and attic. It was constructed to provide for instruction and research in Anatomy, including Neurology, Gross Anatomy, and Microscopic Anatomy. The first floor is occupied by two large laboratories for microscopic work in Histology and Neurology, a laboratory for research and instruction in Immunology, a photographic room, and two small research laboratories for members of the staff. The second floor contains the research laboratories in Neurology, three laboratories for microscopic work, a chartroom, and a lecture-room. The third floor contains a large laboratory for human dissection, two laboratories for advanced work in microscopic anatomy, and four rooms for members of the staff. The fourth floor contains a second large dissection laboratory, two small laboratories for the same purpose, a museum of anatomical preparations and models, and several small rooms for the staff. The laboratories are well equipped for teaching and research in all branches of anatomy and in immunology.

THE PHYSIOLOGICAL LABORATORY

The Physiological Laboratory is 102 by 52 feet and four stories high, exclusive of the basement and attic. The basement contains a dark room, two laboratories for advanced courses in physiology, combustion and centrifugal room, two storerooms, and the mechanic's shop. It is connected with the greenhouse, which has been converted into an aquarium and animal room. The first floor contains general laboratories for college and medical courses in physiology, a

lecture-room, a storeroom, and a small research laboratory. The second floor contains a large lecture-room, an optical room, and four research laboratories. The third floor contains two large laboratories and one small laboratory for research in Physiology, one large laboratory and two small ones for research in Physiological Chemistry and Pharmacology, and a balance-room. The fourth floor contains two rooms with animal cages and two operating rooms, a storeroom, a large laboratory for work in Physiological Chemistry, and a laboratory for work in Physiology and Pharmacology. The attic contains animal rooms. Additional animal quarters are provided in a building at Fifty-seventh Street and Ingleside Avenue. The laboratories are well equipped both for general instruction in Physiology, Physiological Chemistry, and Pharmacology, and for advanced and research work in these sciences.

THE ZOÖLOGICAL LABORATORY

The Zoölogical Laboratory is 120 by 50 feet and four stories high, exclusive of the basement. On the first floor are located the library of the biological departments, a synoptical museum, a large laboratory for elementary Zoölogy, and a laboratory for research work in Pathology. The second floor contains one large laboratory for beginners in research and a number of smaller laboratories for more advanced work. The third floor contains three large laboratories for Comparative Anatomy and Embryology and a number of rooms for research. The fourth floor is devoted to the laboratories of Bacteriology, which are supplied with sterilizers, incubators, special microscopes, and other bacteriological apparatus, and are furnished with tables for microscopical work and for the usual laboratory manipulations. The basement contains one large room with glass-covered extension on the south side, designed for an aquarium; two rooms for use as aviaries, vivaria, etc.; one room for paleontological material, and one for taxidermy and museum purposes. The best optical and other apparatus demanded by zoölogical work is provided. There are series of models and charts illustrating embryological and morphological subjects and ample facilities for keeping land and aquatic animals under favorable conditions for study.

THE HOWARD TAYLOR RICKETTS LABORATORY

The Ricketts Laboratory was built with funds provided from the general income of the University and was opened January 1, 1915, to provide temporary quarters for the Department of Pathology and the Department of Hygiene and Bacteriology. It is a one-story brick building, measuring 180 by 180 feet, located on the west side of Ellis Avenue between Fifty-seventh and Fifty-eighth streets. The south half is occupied by the Department of Pathology, the north half by Hygiene and Bacteriology. A central wing provides a lecture-room, and two lateral wings contain animal houses, one for each department. A fireproof building in the court provides for the Museum of Pathology. In addition to general laboratories, research-rooms, preparation rooms, and offices, each department has an equipped chemical laboratory, and there is one room equipped for experimental surgical work.

THE KENT CHEMICAL LABORATORY

The Chemical Laboratory was provided by the generosity of Mr. Sidney A. Kent, is 176 by 64 feet, and is three stories high, exclusive of the basement. An

amphitheater seating 750 people forms an annex to the building. Lectures are given in rooms on the first floor. The laboratory instruction in General Inorganic and Elementary Organic Chemistry is given on the third floor in three large laboratories accommodating 300 students. Each student is given a separate desk supplied with gas and water and is furnished with all the necessary chemicals and apparatus. The laboratories of Analytical Chemistry are on the second and third floors. The advanced work in Chemistry is done in general and private laboratories on the first and second floors. There are a number of small rooms used as balance, combustion, gas-analysis, photographic rooms, etc. The Chemical Library contains full sets of the most important journals, books of reference, and other works relating to Chemistry.

THE LIBRARIES

The University Libraries contain at the present time over 700,000 volumes bound and catalogued. Considering that a large number of volumes are bound together, and that there are in the Libraries over 200,000 pamphlets and a considerable number of volumes not as yet accessioned, the total number will probably exceed one million.

Of the fourteen libraries on the campus, the General Library, located in the Harper Memorial Building, is the largest, containing about half a million volumes. The Departmental Libraries of particular interest to medical students are: Biology, including Anatomy, Neurology, Physiology, Bacteriology, Pathology, Zoölogy, Physiological Chemistry, and Pharmacology, numbering over 30,000 volumes; Chemistry and Physics with nearly 5,000 volumes each.

The General Library has a dictionary catalog, author, subject, and title in one alphabet, also a classed or systematic catalogue. These two catalogues include not only books in the General Library, but also most of the books in Departmental Libraries. The Departmental Libraries have usually only author catalogues, and in part shelf lists or classed catalogues, covering their own collections.

Students who have matriculated and paid their library fee, may take at one time three volumes from the General Library. These may be kept two weeks, and at the end of that time, if desired, may be renewed for two weeks. Former students may continue the use of the Library on recommendation of a Dean or Head of a Department of Instruction of the University, indorsed by the Director of the Libraries, without fee, or he may secure the same privilege by the payment of a library fee of $2.50 a quarter.

The General Library is open on every week day from 8:00 A.M. to 10:00 P.M. The Library receives about 3,000 current periodical publications, including the transactions and proceedings of learned societies. The Departmental Libraries are closed at 10:00 P.M.

The students of the University are admitted to the John Crerar Library and the Newberry Library. The former contains a large number of medical and general scientific works.

The Public Library of Chicago, with its various branches, is also available to medical students for general reading.

BUILDINGS, EQUIPMENT, AND HOSPITAL FACILITIES AT RUSH MEDICAL COLLEGE

The Clinical Building, located at West Harrison and Wood streets, is 60 by 80 feet and four stories in height. The first floor is occupied by the college library and reading room. On the second floor are situated the offices of the College, the lower amphitheater, seating 400, and clinical waiting-rooms. The third floor contains the upper amphitheater, seating 530 persons, a large surgical examining and dressing room, five clinical examining rooms, and a waiting-room for patients. The fourth floor is occupied in part by the upper amphitheater and in part by the laboratory for surgical and orthopedic appliances and bandaging.

The Library and Reading-Room occupies the first floor of the Clinical Building, a most convenient location for students. The library contains 23,002 volumes, 4,688 pamphlets, 14,859 reprints, and files of all the leading medical journals in English, German, and French. During the last college year the library had a daily average attendance of 196 students.

Senn Hall, erected through the munificence of the late Professor Senn and other members of the Faculty, adjoins the Clinical Building on the east. It covers a ground space of 40 by 90 feet, is seven stories in height (including the basement), and of absolutely fireproof construction. The basement and first three floors, affording over 10,000 square feet of floor space, are devoted to the dispensary and the clinical teaching connected therewith. The fourth and fifth floors are occupied by clinical laboratories and recitation rooms. The remaining two stories contain two surgical and medical amphitheaters, seating about 150 each, with necessary waiting and preparation rooms.

The Laboratory Building, on the south side of Harrison Street, is 100 by 45 feet in area and six stories in height (including the basement). The basement is occupied by storage-rooms for apparatus, an animal room for the laboratory of Pathology and Bacteriology, and a cloakroom for students. Adjoining the basement is a separate building for the preparation and storage of cadavers by the cold-storage process, with a capacity for about two hundred bodies. The first and second stories are devoted to the Department of Pathology and Bacteriology, which is fully equipped with the necessary microscopes and other apparatus for advanced work in these branches. The third floor is occupied by the Department of Chemistry and Toxicology and is supplied with all the necessary apparatus and materials for advanced work in these branches in their relation to practical medicine. The fourth floor contains four recitation rooms and a laboratory for Pharmacy and Therapeutics. The fifth floor is devoted to advanced work in practical Gross Anatomy and to Operative Surgery.

The Presbyterian Hospital, with accommodations for about 420 patients, adjoins the College and is connected with it, so that patients may be transferred directly from the wards to the clinical amphitheaters. In this hospital over 5,000 patients are treated annually, and it thus affords a large amount of valuable material for the clinics.

ATTENDING STAFF OF THE PRESBYTERIAN HOSPITAL

Consulting Staff: Drs. Philip Adolphus, Frank Billings, James B. Herrick, Robert D. MacArthur, John A. Robison, John M. Dodson.

MEDICINE

Attending Physicians: Drs. Bertram W. Sippy, Wilber E. Post, Rollin T. Woodyatt, Ernest E. Irons, Ralph C. Brown. *Associate Attending Physicians:* Drs. Theodore Tieken, James Murray Washburn, Asher F. Sippy, Samuel R. Slaymaker, B. M. Linnell. *Assistant Attending Physicians:* Drs. James R. Greer, John H. McClellan, George F. Dick, Fred M. Smith, William A. Thomas, Donald P. Abbott, George H. Coleman, Lee C. Gatewood, Charles Leland Shafer, Robert C. Keeton.

Resident Physician: Dr. Harry Albert Oberhelman.

DISEASES OF CHILDREN

Attending Physician: Dr. Clifford G. Grulee. *Associate Attending Physician:* Dr. Walter F. Winholt. *Assistant Attending Physicians:* Drs. Barnet H. Bonar, Charles M. Bacon.

PSYCHIATRY AND NEUROLOGY

Attending Physicians: Drs. Thor Rothstein, Peter Bassoe. *Assistant Associate Physicians:* Drs. James C. Gill, George W. Hall.

SURGERY

Consulting Surgeons: Drs. David W. Graham, William T. Belfield.

Attending Surgeons: Drs. Arthur Dean Bevan, Dean D. Lewis. *Associate Attending Surgeons:* Drs. Carl B. Davis, D. B. Phemister, Charles A. Parker (Orthopedic Surgery), Vernon C. David, Kellogg Speed. *Assistant Attending Surgeons:* Drs. Ernest M. Miller, Albert H. Montgomery, Golder L. McWhorter, F. B. McCarty, Gatewood, McMicken Hanchett, Hillier L. Baker. *Associate Attending Urologists:* Drs. Kretschmer, Robert, H. Herbst. *Assistant Attending Urologists:* Alvin Thomson, H. L. Morris. *Associate Attending Oral Surgeon:* Dr. Frederick B. Moorehead. *Anesthetist:* Dr. Isabella Herb.

Assistant Resident Surgeons: Drs. Martin C. Lindem, Francis H. Straus, Carl R. Wagner.

OBSTETRICS AND GYNECOLOGY

Consulting Obstetrician and Gynecologist: Dr. John Clarence Webster.

Attending Obstetrician and Gynecologist: Dr. Noble S. Heaney.

Associate Attending Obstetrician and Gynecologist: Dr. Carey Culbertson.

Assistant Attending Obstetricians and Gynecologists: William F. Hewitt, Kathleen Harrington, Aaron E. Kanter, Aldo K. Germann.

Out-Patient Department: Drs. Frederick William Rohr, Paul C. Fox.

LARYNGOLOGY AND OTOLOGY

Attending Laryngologist and Otologist: Dr. George E. Shambaugh. *Assistant Attending Laryngologists and Otologists:* Drs. George A. Torrison, Thomas W. Lewis, Daniel B. Hayden, and Edwin A. McGinnis.

OPHTHALMOLOGY

Attending Ophthalmologist: Dr. William H. Wilder. *Assistant Attending Ophthalmologists:* Drs. John B. Ellis, Charles G. Darling, Wm. G. Reeder, Thomas D. Allen.

DERMATOLOGY

Attending Dermatologist: Dr. Oliver S. Ormsby. *Assistant Attending Dermatologists:* Drs. Ernest L. McEwen J. Frank Waugh, James Herbert Mitchell.

PATHOLOGY

Attending Pathologists: Drs. Ludvig Hektoen, Edwin R. LeCount.
Resident Pathologist: Dr. Burrell O. Raulston.
Serologist: Dr. Homer K. Nicoll.

CHEMISTRY

Attending Chemist: Dr. Walter S. Haines.

X-RAY DEPARTMENT

Attending Roentgenologist: Dr. Cassie Bell Rose.

The Home for Destitute Crippled Children, situated about a half-mile from the College, has about 100 beds and an out-patient department. Under the contract recently entered into between the directors of the Home and the trustees of Rush Medical College this clinical material is made available to the Faculty and students of the College for instruction and research. It affords excellent opportunities in Orthopedic Surgery.

STAFF OF THE HOME FOR DESTITUTE CRIPPLED CHILDREN

CONSULTING STAFF

Dr. James B. Herrick, Department of Medicine.
Dr. Arthur Dean Bevan, Department of Surgery.
Dr. John M. Dodson, Department of Pediatrics.
Dr. Clifford G. Grulee, Department of Pediatrics.
Dr. Thor Rothstein, Department of Neurology.
Dr. George E. Shambaugh, Department of Laryngology and Otology.
Dr. William H. Wilder, Department of Ophthalmology.
Dr. Ludvig Hektoen, Department of Pathology.
Dr. Oliver S. Ormsby, Department of Dermatology.
Dr. E. W. Ryerson, Department of Orthopedic Surgery.
Dr. Wallace Blanchard, Department of Orthopedic Surgery.

ATTENDING STAFF

Dr. Charles A. Parker, Orthopedic Surgeon.
Dr. S. R. Slaymaker, Department of Medicine.
Dr. Walter F. Winholt, Department of Pediatrics.
Dr. Peter Bassoe, Department of Neurology.
Dr. John B. Ellis, Department of Ophthalmology.
Dr. J. E. Rhodes, Department of Nose and Throat.
Dr. E. L. McEwen, Department of Dermatology.
Drs. Dean D. Lewis and Carl B. Davis, Department of General Surgery.
Mr. Charles O. Carlstrom, Department of Kinesitherapy.
James R. Blayney, Department of Oral Surgery.

ASSISTANT ATTENDING STAFF

Drs. Jacob Myer and Elvin J. Berkheiser, Department of Orthopedic Surgery.

Dr. ———, Department of Medicine.

Dr. Henry C. Johnson, Department of Pediatrics.

Dr. Dallas B. Phemister, Department of General Surgery.

Dr. Edwin McGinnis, Department of Nose and Throat.

The John McCormick Institute for Infectious Diseases, endowed by Mr. and Mrs. Harold McCormick, with the Durand Hospital is situated one block south of the College. The hospital, which has about 50 beds, receives only charity cases afflicted with contagious disease. The students of the College, in small groups, visit and study these cases in the course of their required work.

STAFF OF THE DURAND HOSPITAL OF THE JOHN McCORMICK INSTITUTE FOR INFECTIOUS DISEASES

Surgeon: Dr. Dallas B. Phemister.

Ophthalmologist: Dr. Edward V. L. Brown.

Otologist: Dr. Robert Sonnenschein.

Laryngologists: Dr. Edward McGinnis and Linn F. McBride.

In the **Cook County Hospital,** which is situated opposite the College, are treated about 20,000 patients annually. In this institution are given about forty clinics a week, including all varieties of medical and surgical cases. The facilities for the study of Pathology which are offered at the Cook County Hospital are unexcelled in this country. Between 300 and 400 postmortems are made annually in the necropsy theater by Professor LeCount, Professor Wells, and the other pathologists of the hospital.

Clinical courses in the Cook County Hospital are offered to the students of Rush Medical College by the following members of the Faculty:

Attending Physicians: Drs. Jos. L. Miller, Jos. A. Capps, Theodore Tieken, Ludwig M. Loeb, Ernest E. Irons, Ellis K. Kerr, Archibald Hoyne, Karl K. Koessler, George H. Coleman, Lee Connell Gatewood, Arthur Byfield.

Attending Neurologist: Dr. Clarence A. Neymann.

Attending Pediatrists: Drs. May Michael, August Strauch, Walter Winholt.

Attending Surgeons: Drs. Vernon C. David, George G. Davis, Paul Oliver, Kellogg Speed, Daniel N. Eisendrath, Roger T. Vaughan, David C. Strauss, Hugh McKenna, and Edward J. Lewis.

Attending Obstetricians: Dr. W. George Lee.

Attending Gynecologist: Dr. Carey Culbertson.

Attending Ophthalmologist: Dr. Charles G. Darling.

Attending Pathologists: Drs. E. R. LeCount, H. G. Wells.

In 1915 the Country Home for Convalescent Children, at Prince Crossing, Illinois, a few miles west of Chicago, entered into affiliation with Rush Medical College. It has for its purpose the care, cure, and education of helpless and crippled children.

ATTENDING STAFF OF THE COUNTRY HOME FOR CONVALESCENT CHILDREN

Orthopedic Surgeons: Dr. John Ridlon, Chief of Staff; Drs. Wallace Blanchard, Charles A. Parker.

Consulting Surgeon: Dr. Arthur Dean Bevan.

Consulting Physician: Dr. James B. Herrick.

Laryngologist and Otologist: Dr. George E. Shambaugh.

Oculist: Dr. Wm. G. Reeder.

Oral Surgeon: Dr. Frederick B. Moorehead.

In 1915 St. Joseph's Hospital, 2100 Burling Street, entered into affiliation with Rush Medical College. This hospital, conducted by the Sisters of Charity, St. Vincent de Paul, has 210 beds.

STAFF OF THE CHILDREN'S MEMORIAL HOSPITAL

(in affiliation with the University of Chicago)

Medical Department

Attending Physician and Chief of Staff: Dr. Joseph Brennemann.

Associate Attending Physicians: Dr. George E. Baxter, W. H. O. Hoffman.

Assistant Attending Physicians: Drs. Harold A. Bachman, Franklin J. Corper, Stanley Gibson, Sigurd Kraft, Wm. B. McClure, Charles Schott, Gustav Kaufman.

NEUROLOGY

Attending Neurologist: Dr. Thor Rothstein.

Assistant Attending Neurologist: Dr. L. W. Avery.

DERMATOLOGY

Attending Dermatologist: Dr. E. A. Oliver.

Assistant Attending Dermatologist: Dr. Clark W. Finnerud.

Surgical Department

Attending Surgeon and Chief of Department: Dr. Vernon C. David.

Associate Attending Surgeon: Dr. Albert H. Montgomery.

Assistant Attending Surgeons: Drs. J. A. Graham, M. W. Hanchett, Edwin M. Miller, Frederick B. Moorehead (Oral Surgeon).

ORTHOPEDICS

Attending Orthopedic Surgeon: Dr. Edwin W. Ryerson.

Associate Attending Orthopedic Surgeon: Dr. Robert O. Ritter.

Assistant Attending Orthopedic Surgeons: Drs. E. J. Berkheiser, Dwight F. Clark, Edwin B. Fowler, J. R. Harry.

OPHTHALMOLOGY

Attending Ophthalmologist: Dr. Alfred M. Hall.

OTOLARYNGOLOGY

Attending Otolaryngologist: Dr. David Fiske.

Associate Attending Otolaryngologists: Drs. Edwin McGinnis, John C. Williams.

ROENTGENOLOGY

Attending Roentgenologist: Dr. Henry H. Uhlman.

PATHOLOGY

Dr. William G. Hibbs.

RESIDENT STAFF

Senior Resident Physician: Dr. C. J. Eldridge.
Junior Resident Physician: Dr. Homer T. Clay.
Resident Surgeon: Dr. George H. Jackson

Extra-mural courses.—Through the courtesy of the medical attendants and managing officers of several hospitals and dispensaries within convenient distance of the College extra-mural clinical courses are offered to the students of Rush, in small groups, and the clinical material available for teaching has thus been greatly augmented. Such courses are offered at the West Side Hebrew Dispensary, treating over 30,000 cases annually; at St. Luke's Hospital, with about 2,000 cases annually; at the Illinois Charitable Eye and Ear Infirmary, treating about 1,000 cases; at the Chicago Isolation Hospital; and at St. Anthony's Hospital, with about 100 beds.

FELLOWSHIPS, HOSPITAL INTERNES, AND PRIZES

(*At Rush Medical College*)

FELLOWSHIPS

The following fellowships have been provided in the several departments:

1. The Fellowship in Chemistry. Not to be awarded for 1921–22.
2. The Fellowship in Pathology. Awarded to Celestin B. Semerak.
3. The "Dane Billings Memorial Fellowship in Medicine," founded by Professor Frank Billings. Awarded to Dr. William George Hibbs.
4. The "Daniel R. Brower Fellowship," founded by the late Professor Daniel Roberts Brower, in the Department of Medicine. Not awarded for 1921–22.
5. The "Nicholas Senn Fellowship in Surgery," founded by the late Professor Nicholas Senn. Awarded to Dr. Francis H. Straus.
6. The "A. D. Thompson-Bevan Fellowship in Surgery and House Surgeonship in the Presbyterian Hospital," established in 1915 through the generosity of Mr. A. D. Thompson, Duluth, Minn., and Professor Arthur Dean Bevan. Awarded to Dr. Carl R. Wagner.
7. The "Francis A. Hardy Fellowship in Surgery and Assistant House Surgeonship in the Presbyterian Hospital," maintained by Mr. Francis A. Hardy. Awarded to Dr. Martin C. Lindem.

SCHOLARSHIPS

8. The "E. Fletcher Ingals, Jr., Scholarship in Laryngology and Otology," yielding $250 annually, is awarded to a physician who is seeking to qualify himself for the practice of laryngology and otology. Opportunity is afforded the holder of this scholarship for advanced work and clinical training.

HOSPITAL INTERNES

Positions as internes, through a competitive examination held by the respective hospital staffs, are open each spring to graduates of Rush Medical College in the following Chicago hospitals; Presbyterian, Children's Memorial, Home for Destitute Crippled Children, Cook County, Michael Reese, St. Joseph's, St. Elizabeth's, St. Luke's, Augustana, Chicago, Alexian Brothers', Passavant, Chicago Policlinic, German, Norwegian, Illinois Charitable Eye and Ear Infirmary, St. Anthony's, Swedish, Chicago Maternity, and others, and in a much larger list of institutions outside of the city of Chicago which make appointments from the students of the Senior class in Rush Medical College. The occupants of these positions receive their board and lodging and acquire experience in every department of practical Medicine and Surgery.

PRIZES

The Benjamin Rush Prize.—A medal of the value of $50 is given by the Faculty at each commencement to that member of the graduating class who passes the highest examination in every department of Medicine represented that year in the examination for the degree. Awarded in 1921 to Louis Leiter, S.M.

The Daniel Brainard Prize.—A medal is annually given by the Faculty to the student who makes and presents to the College Museum the best accepted dissection in Surgical Anatomy. Awarded in 1921 to Arthur Ralph Colwell, S.B.

The Freer Prizes.—These prizes are derived from the income of a fund presented to the College by the late Nathan M. Freer, of the Board of Trustees, as a memorial to the names of two honored members of his family long identified with the highest interests of this institution.

*The J. W. Freer Medal and the sum of $50 are awarded as a first prize to that member of the Junior or Senior class who presents the best dissertation involving original investigation on the part of the student. A second prize of $25 is awarded to the next successful competitor. The dissertations must be submitted to the Dean of Students on or before April 1, 1922.

First prize awarded to Toney Taylor Crooks, A.B.

Second prize awarded to Jeanette Harrison, S.B.

*The L. C. P. Freer Medal and the sum of $50 are offered as a first prize to that member of the Freshman or Sophomore class who presents the best dissertation involving original investigation on the part of the student. A second prize of $25 will be awarded to the next most successful of the competitors. *This prize will be competed for by students in the medical courses of the University.* The dissertation must be placed in the hands of the Dean of Students by April 1, 1922.

Not awarded in 1921.

The De Laskee Miller Prize given by his daughter, Mrs. C. C. Curtiss, for the best work in the department of Obstetrics and Gynecology, was awarded to Matthew Winters, A.M.

The Henry M. Lyman Prize.—In memory of Henry M. Lyman, who for many years devoted much of his best energies and his unusual ability to the

* *Rules governing the award of the Freer medals.*—(1) The candidate must present his dissertation in typewritten form. (2) Each candidate may present but one dissertation. (3) As the purpose of the medals is to stimulate research, only those dissertations will be considered that have been written in competition for the medal. This will exclude those published previous to their presentation to the committee and those that were written for a degree. (4) Applicable to the J. W. Freer Medal only. Only those dissertations that are submitted by bona fide Juniors and Seniors will be considered. Students acting as assistants to instructors and receiving compensation therefor cannot compete for the prize.

upbuilding of Rush Medical College, and who served successfully as Professor of Physiology and Neurology and Professor of Medicine, and who was later Dean of the Faculty, a fund has been created by his children, the proceeds of which, amounting to $25 a year, will be offered as a prize to the member of the Junior or Senior class who shall present the best dissertation on a topic connected with internal medicine. This dissertation must include the results of original laboratory or ward work or of personal clinical observation. Before the work is undertaken by the student the Head of the Department of Medicine should be consulted as to the choice of subject and other details.

Not awarded in 1921.

The Howard T. Ricketts Prize.—In memory of Dr. Howard Taylor Ricketts, at one time a member of the Department of Dermatology, who died of typhus fever, while investigating that disease, in the City of Mexico, May 3, 1910, this Department has established a prize in Dermatology. This prize, of the value of $25, will be awarded annually to the student presenting the best dissertation embodying the results of original investigation on some topic related to Dermatology. Louis Leiter, S.M.

Medical scholarships as prizes for research.—The Trustees of the College have established three scholarships in the Junior and Senior years as prizes for the best dissertations involving original work in any of the branches usually included in the first two years of the medical curriculum: anatomy, both gross and microscopic, embryology, neurology, physiology, physiological chemistry, pharmacology, bacteriology, or pathology. This competition is open to students completing the second year of the medical course in university medical schools whose standards are equal to those of Rush Medical College. The first prize scholarship is the tuition for three quarters in Rush Medical College ($225), the second prize tuition for two quarters ($150), and the third prize tuition for one quarter ($75). Dissertations must be sent to the Dean of Medical Students Rush Medical College, on or before April 1, 1922.

Awarded in 1921, First Prize to Eben J. Cary, Second Prize to Samuel A. Machlis, S.B.

SCHOLARSHIPS AND OTHER AID

A. Scholarships Open to Students in the College of Arts, Literature, and Science

1. Honor Scholarships

Honor Entrance Scholarships.—To a limited number of students of high rank from co-operating high schools honor scholarships ($180 in tuition fees) are granted each year. Holders of honor scholarships are not required to render service to the University. These scholarships may be revoked at the end of any quarter if the holder's work is not maintained at a satisfactory grade.

Competitive Examination Entrance Scholarships.—In connection with the annual conference of the University in co-operation with its secondary schools held at the University in May of each year competitive examinations in certain subjects are open to Seniors in the co-operating high schools. There are likewise contests in reading aloud and effective speaking. Eleven scholarships are awarded annually, each covering tuition ($180) for the next academic year.

Second-year Honor Scholarships.—To twenty Junior College students who have shown exceptional ability in the work of the first year honor scholarships are granted for the second year (three quarters) for the undergraduate course. One of these is called "The Lillian Gertrude Selz Scholarship," and grants full annual tuition fees plus $70 in cash to the young woman who completes the first year with highest standing.

Senior College Honor Scholarships.—To Senior College students nominated by the departments for excellent work in the Junior College courses honor scholarships are granted to cover the tuition fees of the third year. To Senior College students nominated by the departments for excellent work in the first three years of the College course honor scholarships are granted to cover the tuition fees of the fourth year.

Graduate Honor Scholarships.—Scholarships are assigned to students who have completed with honor the work of the Senior College. Each department of the University, with the approval of the Committee on Scholarships, has the privilege of naming a student who is for that year the honor student of the Senior College in that department, and to this student there is given a scholarship yielding in each case a sum equal to the University tuition fees for three quarters, provided the student continues his studies in the Graduate Schools. The assignments are made in the Spring Quarter, and in no case does a scholarship continue beyond the end of the Spring Quarter next following the date of assignment.

Undergraduate.—A limited number of scholarships yielding a part or all of tuition fees for three quarters are available for undergraduate students of attainment and promise. Holders of these scholarships are not required to render service to the University. These scholarships may be revoked at the end of any quarter if the holder's work is not maintained at a satisfactory grade.

The following specially endowed honor scholarships are also available for undergraduate students:

"The A. J. Howe Memorial Scholarship," which yields $50 toward the tuition fees of a University student.

"The Kelly Scholarship," which yields the annual tuition fees.

"The Henry C. Lytton Scholarship," which yields the annual tuition fees.

"The Joseph Reynolds Scholarships," which yield $1,455 per year, available in tuition fees for men students.

"The Scammon Scholarship," which yields $25 toward the tuition fees of a Chicago student.

"The Peter Tilton Scholarship," which yields $50 in tuition fees.

"The Catherine M. White Scholarships," which yield annual fees for three students of high scholarship.

2. COMPETITIVE AND PERSONALLY BESTOWED SCHOLARSHIPS AND PRIZES

Certain scholarships are bestowed either by examination or by personal appointment as follows:

"The Enos M. Barton Scholarship," endowed by Mr. Enos M. Barton, of Chicago, provides for the tuition fees of a student. It is awarded annually to an undergraduate student whose scholarship in preparatory work and in college shall reach B, and who shall maintain this standing subject to forfeiture.

"The Permelia Brown Scholarships," about $1,250 per annum, provided for under the will of Permelia Brown, offer aid to unmarried American-born women students, residents of Chicago, Cook County, Illinois. Application should be made to the Dean of the Colleges of Arts, Literature, and Science.

"The Civil Government Scholarship" yields $200 annually: one prize of $150 and one of $50. The prizes are given on the basis of an examination in the "Civil Government of the United States." The examination is held in November, and is open to all students who have been in residence at least three quarters, who have not more than twelve majors, and who have an average grade of C. No award is made unless the examination mark is at least 80 per cent.

"The Class of 1916 Scholarship," which yields $50 toward the tuition fees of some deserving student, preferably a Senior. The appointment will be based upon financial need, scholarship, and student activities receiving secondary consideration.

"The Colby Scholarships" yield full annual tuition fees for five graduates of Wayland Academy.

"The John Billings Fiske Prize in Poetry," established by Horace Spencer Fiske as a memorial for his father. The prize of approximately $50 is to be awarded annually to the graduate or undergraduate student in any division of the University who presents a poem adjudged best by the head of the English Department, a leading American poet, and a leading American critic.

"The Zweinglius Grover Memorial Scholarship," endowed by the Alumnae Association of Dearborn Seminary, yields annual fees for a woman student.

"The Haiman Löwy Scholarship," which yields full annual fees to a young man student, preferably to a student of Jewish faith.

"The Walter D. Löwy Scholarship," which yields full annual fees and is granted to a student of high scholarship, preferably to a person of the Jewish faith.

"The Marie J. Mergler Scholarship," which yields annual fees to a young woman student specializing in Physiology.

"The David Blair McLaughlin Prize." This prize of approximately $50, the annual net income of $1,000, established in memory of David Blair McLaughlin, 1895–1914, a student in the College of Literature of the Class of 1916, is awarded annually to a student having credit for not more than two years of college work who has shown special skill and sense of form in the writing of English prose. The competition occurs in the Spring Quarter.

"The La Verne Noyes Foundation," established July 5, 1918, by the gift of Mr. La Verne Noyes, provides tuition scholarships for deserving students who (1) shall themselves have served in the Army or Navy of the United States in the war for liberty into which the Republic entered on April 6, 1917, providing that such service was terminated by honorable discharge; or (2) shall be descendants by blood of anyone in service in the Army or Navy of the United States who served in said war; or (3) shall be descendants by blood of anyone who served in the Army or Navy of the United States in said war, provided that such service was terminated by an honorable death or an honorable discharge. The chairman of the committee is Dean Rollin D. Salisbury.

"The Pillsbury Academy Scholarships," which yield annually tuition fees for five graduates of Pillsbury Academy.

"The Herbert A. and Harriet E. Morse Trust Fund," which yields $140 to be applied to the education of worthy and needy persons desiring to attend or attending the University of Chicago.

"The Howard T. Ricketts Prize," about $250, the net annual income of $5,000, is awarded on the third day of May to a student of the University of Chicago presenting the best results of research in Pathology or Bacteriology.

"The Rosenberger Medal," founded by Mr. and Mrs. Jesse Rosenberger, is awarded by the University of Chicago in recognition of achievement through research, in authorship, in invention, for discovery, for unusual public service, or for anything deemed of great benefit to humanity. If at any time it is thought best the awards may be restricted preferentially, or even wholly, to persons connected with the University of Chicago and its various departments, including all the faculty and other instructors, all the students, graduate and undergraduate, and all the graduates both of the University and of all the departments thereof.

"The Susan Colver Rosenberger Educational Prizes," established by Jesse L. Rosenberger, are awarded as follows: To endow in perpetuity what shall be known as the Susan Colver Rosenberger Educational Prizes, only the income ($75) of the endowment ever to be used, and such income to be used only to be awarded as such prizes, in such sums as shall seem best: (*a*) One prize to be awarded in one year or at one time, either in connection with the School of Education or such other department of the University as may be deemed best, for a dissertation that shall meet the requirements of the University and give the results of valuable original research on some important phase of sound elementary, home, kindergarten, primary, or grammar-school education, its principles, needs, methods, or discipline, or pertaining to child welfare, or else, when thought best, to be awarded for the best practical essay or dissertation produced in competition and treating in some original way of one or the other of said subjects. (*b*) The next prize to be awarded the next year or time in connection with such other department or departments of the University as may be thought best, as a reward for meritorious original research and an acceptable dissertation, or a reward for meritorious original research and an acceptable dissertation, or else competitively for the best essay or dissertation, on some important phase of education or educational principles, needs, or methods in relation to, or as an essential part of, religious, home- or foreign-mission, Sunday-school, social-settlement, or betterment work, or in relation to the general welfare, whichever it is believed at the time will do the most good. It is particularly desired to encourage original research of a kind to warrant and secure publication. In other words, it is desired to have the prizes awarded alternately as stimuli for constructive study and original research to develop practical ideas for the improvement of educational aims and methods in the fields suggested and among the students in such departments of the University as it may from time to time be thought the greatest good will be done; but should it at any time be thought best to divide the income of this endowment, equally or unequally, for the purpose of making two concurrent prizes, then the prizes may both be awarded in the same year, and one without any reference to the other. Awards may be withheld at any time it is thought best, and income or portions of income may be allowed to accumulate or may be added to the permanent principal of the endowment

as desired. This endowment is intended to be a special memorial to Susan Colver Rosenberger (Mrs. Jesse L. Rosenberger), to the end that her name may distinctively continue in the cause of education to be something of the inspiration that she herself was in her lifetime, having practically consecrated her life to that cause, as well as having taken an interest in religious, home- and foreign-mission work, while it was one of her special characteristics to show appreciation for and to encourage the advancement of teachers and pupils. Information about her is given in the *University Record* for January, 1919.

"The Elbert H. Shirk Scholarship," available for students nominated by the Shirk Estate, Peru, Indiana, yields annual tuition fees.

"The Charles H. Smiley Scholarship," which yields full annual fees and is granted to a student of high scholarship, preferably to a colored student.

"The Henry Strong Scholarships," provided for under the will of General Henry Strong, offer aid to students possessing not only zeal for scholarship but also character and those traits tending to leadership. Application should be made to the President before August 1.

"The Talcott Scholarships," endowed by Mr. William A. Talcott, of Rockford, Illinois, provide tuition fees to the amount of $600 per year. This fund is reserved for graduate students, preferably graduates of Rockford College.

"The Joseph Triner Scholarship," which yields $240 a year and is awarded to a Czecho-slovak graduate of the Harrison Technical High School who has pursued with distinction at least one year of chemistry in that school, and who is recommended by the principal of the school and approved by the chairman of the Department of Chemistry in the University of Chicago.

"The University Scholarship," which gives full annual fees to a student of high scholarship specializing in Semitics.

Three scholarships, tuition for one quarter, are awarded to the successful candidates for positions on the Freshman debating team. The trials are held the third Monday in February.

Three "Public Speaking Scholarships" (tuition fees for one quarter) are granted to the winners in the quarterly Public Speaking Contests in the Junior Colleges.

An "Oratorical Contest Scholarship," yieldingtuition fees for three quarters, is granted annually to a Senior College student.

"The University Debate Scholarships" provide for the awarding of six scholarships, tuition for the winter and spring quarters following the contests, to the six members of the University debating teams. The trials are held the first Monday in November, competition being limited to undergraduates.

A prize of $100 founded in memory of Mrs. Florence James Adams is offered to students for excellence in artistic reading. The competition occurs in the Spring Quarter.

Medical scholarships as prizes for research.—In order to encourage the investigative spirit and method among prospective medical students in colleges recognized by the University of Chicago, the University offers three or four prize scholarships in the Medical Courses for the best dissertations involving original work in one of the sciences fundamental to medicine: physics, chemistry, or any of the biological branches. Two or three of these are open to undergraduates only, as follows: the first prize scholarship, a sum equal to the tuition

for three quarters ($225); the second scholarship, a sum equal to the tuition for two quarters ($150); and the third scholarship, a sum equal to the tuition for one quarter ($75). Students submitting dissertations in this group must be members of the Senior class of the college which they are attending and must secure the Bachelor's degree from said college and be eligible to enter the graduate School of the University of Chicago in order to claim the scholarship won.

One prize scholarship, yielding a sum equal to the tuition for three quarters ($225), for a dissertation similar to the above is open only to graduate students in these colleges.

The competition for these prize scholarships in medicine is open only to students in colleges which are on the recognized list of the University of Chicago.

Dissertations must be in the hands of the Dean of Medical Students, University of Chicago, on or before April 1. Further particulars in regard to these scholarships may be had on application to the Dean.

N.B.—*These prize scholarships may not be applied on deferred tuition bills or on notes.*

C. UNIVERSITY SERVICE

1. DEPARTMENTAL SERVICE

a) Graduate.—A limited number of assignments to service, yielding a part or all of the tuition fees for three quarters, are available for graduate students of attainment and promise. This service is usually rendered in the department in which the student is doing the major part of his work. **Students in departmental service pay their tuition fees in cash at the beginning of each quarter.** At the close of the quarter they receive a cash payment for the amount of the service if it has been satisfactorily rendered.

Assignments of this class are awarded preferably to students who desire to work in a special department rather than to those who desire to pursue general courses. Application should be made to the Deans of the Graduate Schools.

2. LIBRARY SERVICE

Applicants for positions in Library service are appointed to service by the Libraries. Students holding such appointments must maintain a grade of academic work satisfactory to their Deans and of service satisfactory to the Libraries. Such students are required to pay their fees in cash at the office of the Cashier within the first five days of the quarter. For whatever service they may satisfactorily render they will be paid in cash at the end of the quarter.

3. MISCELLANEOUS SERVICE

Other forms of student service are: (*a*) messenger service at the Information Office, application for which should be addressed to the Cashier; (*b*) service in the University Choir, applications for which should be addressed to the Director of the University Choir; (*c*) service in the University Band, applications for which should be addressed to the Director of the University Band; (*e*) service in the Commons, the compensation being furnished in board. Inquiries with regard to this service should be addressed to the Director of the Commons; (*f*) temporary stenographic or clerical service for members of the Faculty or administrative officers, and occasionally special service in the laboratories. When such opportunities occur, notices are posed on the bulletin board in front of

Cobb Lecture Hall, and detailed information is obtainable at the Employment Bureau.

4. OUTSIDE EMPLOYMENT

The University maintains an Employment Bureau through which many kinds of work are found for students who are compelled to depend in whole or in part upon their own resources.

D. LOAN FUNDS

From funds created by friends of the University loans are made to many students of worth and promise who need temporary aid. These funds are limited and are usually exhausted early in the academic year.

A special circular entitled *Awards and Aids* will be sent on request. It gives details concerning all the forms of aid, routine of application, etc.

FELLOWSHIPS

Fellowships are awarded annually by the Trustees, upon the recommendation of the President and the nomination of particular departments, to graduate students who desire to pursue advanced work in some special line.

Applications for Fellowships.—Applications for Fellowships should be addressed to the Deans of the Graduate Schools of Arts, Literature, and Science *and should be in their hands on or before March 1.*

Appointments to Fellowships.—

a) Date.—The annual assignment of Fellowships is made early in April. A Fellowship is available for any three of the four quarters, beginning with the Summer Quarter, following the date of appointment.

b) Attainments required.—The candidate must have attained proficiency in some department. In general, he should have spent at least one year in resident study after receiving his Bachelor's degree. In making the appointment special weight is given to dissertations indicating the candidate's ability to conduct original investigation.

Quarterly Reports.—Each Fellow makes a written report to the Dean at the beginning of each quarter. This report outlines his work as a student, and the work assigned to him as an officer of the University for the current quarter, and is indorsed by the head of the department. The report blanks may be procured at the office of the Deans of the Graduate Schools of Arts, Literature, and Science.

A. UNIVERSITY FELLOWSHIPS

The University appropriates annually from its general funds the amount of $21,100 for Fellowships in the Graduate Schools of Arts, Literature, and Science, ranging in individual value from $150, or tuition fees for three quarters, to $520.

The University asks of each of these Fellows a modicum of service, consisting of work (*a*) as an instructor; (*b*) as an assistant in reading examination papers; (*c*) as an assistant on a University journal; or (*d*) as an assistant in one of the departmental laboratories, museums, or libraries. In no case is a Fellow expected to devote so much time to the work here indicated as to interfere seriously with his own study.

B. ENDOWED AND ANNUAL FELLOWSHIPS

In addition to the regular University Fellowships mentioned, there are special Fellowships offered by individuals. These vary somewhat in number and amount from year to year. At present they are as follows:

1. *The Joseph B. Loewenthal Fellowship in Chemistry,* endowed by Mr. Berthold Loewenthal, of Chicago, as a memorial of his son, Joseph B. Loewenthal. It yields $400 to the incumbent annually appointed, and is awarded on the nomination of the Department of Chemistry and the recommendation of the President of the University.

2. *The Gustavus F. Swift Fellowship in Chemistry,* endowed by Mrs. Gustavus F. Swift, Chicago, as a memorial of her husband, Gustavus F. Swift. It yields about $920 to the incumbent annually appointed, and is awarded for especial ability in research on the nomination of the Department of Chemistry and the recommendation of the President of the University.

3. *The Edith Barnard Memorial Fellowship in Chemistry,* established in memory of Dr. Edith Barnard, yields $150 a year, and is awarded by the University, on nomination of the Department of Chemistry, to some deserving graduate student.

5. *The Home Economics Fellowships,* which yield $600 to students in the Department of Home Economics for the year 1921–22. Candidates should present evidence of graduate work in an institution of high standing. A part of the time of the women awarded these Fellowships is to be spent in research in Home Economics.

C. RESEARCH FELLOWSHIPS

1. *The National Research Council Fellowships in Physics and Chemistry,* provided by the Rockefeller Foundation, are awarded by the National Council of Research. Fellows may choose the institution in which they desire to pursue research. Applications should be made to the National Research Council, Washington, D.C.

2. *The Mr. and Mrs. Frank G. Logan Research Fellowships,* endowed by Mr. Frank G. Logan, are available for research in Medicine, Surgery, and Bacteriology and Pathology. Each Fellowship affords an annual stipend of $1,000. On the organization of the Medical School the Research Fellowships in Medicine and in Surgery will be awarded. The Fellowship in Bacteriology and in Pathology is awarded in alternate years.

3. *The Gypsum Fellowships,* provided by the Gypsum Industries Association, are available for two graduate students for research in soil fertilizers in the Department of Botany. Each fellowship affords an annual stipend of $750 payable in twelve payments.

4. *The DuPont Fellowship,* granted by the E. I. du Pont de Nemours Company, is available for the encouragement of research in any field of Chemistry. It yields $750 annually.

NOTE.—On the organization of the Medical School the Research Fellowships in Medicine and in Surgery will be awarded. The Fellowship in Bacteriology and in Pathology is awarded in alternate years.

MEDICAL SOCIETIES

The fact that a very large number of medical men practice in Chicago has led to the development of a number of medical societies, general and special.

Among the more interesting to medical students in the early years of their course is the Chicago Pathological Society. A large number of clinical societies will interest the student, particularly in the later years of his course.

The University of Chicago Biological Club meets on the second Tuedsay evening of each month at 7:45 sharp. At the meetings of this society the advanced work and original research of the various laboratories will be reported, and topics of general medical and scientific interest will be discussed. The meetings are open to medical students. The society holds no meetings during the Summer Quarter.

ALUMNI ASSOCIATION

The Alumni Association of Rush Medical College holds yearly meetings. These meetings precede the regular commencement of the College, which will occur on June 15, 1921. All graduates of the College in good standing are eligible to membership, which can be obtained by the payment of one dollar, the annual dues. The officers for the year ending July 1, 1921, were as follows:

OFFICERS

President—Wilbur E. Post, '03, Chicago.
First Vice-President—J. J. Moore, '12, Chicago
Second Vice-President—Albert S. Barnes, '00, Columbus, Ohio
Third Vice-President—David Fiske, '00, Chicago
Necrologist—J. F. Waugh, '04, Chicago
Treasurer—Carl O. Rinder, '13, Chicago
Secretary—Charles A. Parker, '91, 7 West Madison Street, Chicago

DIRECTORS

ONE YEAR

Harold N. Moyer, '79, Chicago
John E. Rhodes, '86, Chicago

TWO YEARS

George H. Coleman, '13, Chicago
B. M. Linnell, '93, Chicago

THREE YEARS

E. L. Kenyon, '96, Chicago
Dean D. Lewis, '99, Chicago

ALUMNI RELATIONS COMMITTEE

John Ritter, '80, *Chairman*

Oliver H. Avey, '01, Payette, Idaho (Tri-State Oregon, Washington, and Idaho)
J. W. Chamberlin, '82, St. Paul, Minn.
J. K. Humphreys, '06, Salt Lake City, Utah
E. F. McCampbell, '12, Columbus, Ohio
F. A. Speik, '07, Los Angeles, Cal.
Lorenzo N. Grosvenor, '02, Huron, S.D.
Fred A. Tucker, '97, Noblesville, Ind.

BULLETIN COMMITTEE

Morris Fishbein, '12
Elmer L. Kenyon, '96
Herbert Mitchell, '13
Bird McP. Linnell, '93

ENTERTAINMENTS AND ALUMNI CLINICS

Ernest L. McEwen, '97, *Chairman*

E. E. Irons, '03
Charles H. Parkes, '97
John Ritter, '80
Edward O. Hutchinson, '91

MEMBERSHIP COMMITTEE

Bird McP. Linnell, '93, *Chairman*

Harry E. Mock, '96
E. L. McEwen, '97
Eugene S. Talbot, Jr., '10
John Ritter, '80
E. E. Kenyon, '96

GRADUATES OF THE SESSION OF 1920–21

The degree of Doctor of Medicine was conferred on the following students who entered the Medical School before the Summer Quarter, 1914, and were eligible for graduation after the completion of four years of medical work.

At the close of the Summer Quarter, September 3, 1920:

Adeline Rawson White

At the close of the Winter Quarter, March 18, 1921:

Lester Reynold Dragstedt
Alfred Hjalmar Swan

The degree of Doctor of Medicine was conferred on the following students at the close of the Spring Quarter, June 16, 1920. The students had completed five years of medical work, the fifth year consisting of an acceptable service as an interne in a hospital approved by the faculty of the College:

Elmer Nathaniel Ascherman	Cook County Hospital
Robert Graham Bell	St. Joseph's Hospital
Joseph Levi Benton	Illinois Central Railroad Hospital
Leon Cherest Bosch	Kansas City General Hospital, Kansas City, Mo.
Wallace Hugh Budge	Presbyterian Hospital
Seymour Jerome Cohen	Michael Reese Hospital
Nicholas Dykstra	St. Louis City Hospital, St. Louis, Mo.
Samuel Maurice Feinberg	U.S.P.H.S. Hospital No. 30 and Cook County Hospital
Philip Siguard Graven	St. Louis City Hospital, St. Louis, Mo.
Benjamin Franklin Gumbiner	St. Louis City Hospital, St. Louis, Mo.
Frances Mabel Hardy	Miami Valley Hospital, Dayton, Ohio
Stanley Hewitt Haynes	Evanston Hospital and Lakeside Hospital, Cleveland, Ohio
William George Hibbs	Presbyterian Hospital
Alice Mary Hunter	Cincinnati General Hospital, Cincinnati, Ohio
Viggo Vilhelm Jensen	St. Louis City Hospital, St. Louis, Mo.
Broer Rollo Johnson	St. Luke's Hospital
Sidney Richard Kaliski	Cook County Hospital
Lee H. Kiel	Cook County Hospital

Hedwig Stieglitz Kuhn	Cincinnati General Hospital, Cincinnati, Ohio.
James Edward Lee	Cook County Hospital
Martin Carl Lindem	Presbyterian Hospital
Frederick Arnold McMurray	Metropolitan Hospital, New York, N.Y. and Norwegian Lutheran Deaconess Hospital, Brooklyn, N.Y.
William Raymond Meeker	Cook County Hospital
Jay MacDonald Milligan	Presbyterian Hospital
Eugene Fay Naylor	St. Louis City Hospital, St. Louis, Mo.
Karl Magnus Nelson	Children's Memorial Hospital
William Donald Nickelsen	Metropolitan Hospital and New York Skin and Cancer Hospital, New York, N.Y.
Leon Vasco Parker	Presbyterian Hospital
Harold Edward Phillips	U.S. Marine Hospital, Stapleton, L.I., N.Y.
Earle Alexander Pittenger	Children's Memorial Hospital, Chicago and Columbia Hospital, Milwaukee, Wis.
Henry James Profant	Cook County Hospital
Frank Joseph Psota	San Diego General and County Hospital, San Diego, Cal.
Howard William Reed	Akron City Hospital, Akron, Ohio
Bernhard Reynold Reinertsen	Metropolitan Hospital, New York, N.Y. and Norwegian Lutheran Deaconess Hospital, Brooklyn, N.Y.
Isadore Sandock	St. Louis City Hospital, St. Louis, Mo.
Carl Thompson Stephan	Cook County Hospital
Edward Franklin Studer	St. Louis City Hospital, St. Louis, Mo.
Ming Sing Tongs	St. Louis City Hospital, St. Louis, Mo.
Warren Ernest Tupper	Cook County Hospital
Emil George Vrtiak	St. Louis City Hospital, St. Louis, Mo.
Clyde James Westgate	Milwaukee County Hospital, Wauwatosa, Wis.
Philip Wade Whiteley	Cook County Hospital
Max Samuel Wien	Cook County Hospital
Chester Henry Williams	Cook County Hospital
Philip Herman Wolfram	Minneapolis City Hospital, Minneapolis, Minn.
Heung Yun Wong	New York City Hospital and Elizabeth General Hospital and Dispensary, Elizabeth, N.J.

At the close of the Summer Quarter, September 3, 1920:

Edward Dudley Allen	Presbyterian Hospital
Thaddeus Leopold Bradel	St. Louis City Hospital, St. Louis, Mo., and Chicago Lying-In Hospital
John William Brennan	Augustana Hospital, Psychopathic Hospital, and Columbus Memorial Hospital
Virgil Sheetz Counseller	Evanston Hospital and St. Luke's Hospital

Dean Piper Crowell	Presbyterian Hospital
Dodo Hobert Ecke	Milwaukee County Hospital, Wauwatosa, Wis., and Passavant Memorial Hospital
James Houloose	West Suburban Hospital, Oak Park, Ill.
Frank Kostal	West Suburban Hospital, Oak Park, Ill.
Harry Barney Levey	Psychopathic Hospital and Cook County Hospital
Arthur Wesley Meyn	Wesley Memorial Hospital
Oliver Martin Nisbet	Presbyterian Hospital
Joseph Reno Numbers, Jr.	St. Joseph's Hospital
Halford E. Patton	Illinois Central Railway Hospital
Malcolm Chester Pfunder	Miles City Hospital, Miles City, Mont.
Gilbert Palmer Pond	Illinois Steel Company Hospital, Psychopathic Hospital, and St. Joseph's Hospital
Ethel Rosenheim Schlesinger	Los Angeles County Hospital, Los Angeles, Cal.
George Fred Sutherland	Presbyterian Hospital
Louise Dorothy Wagner	Los Angeles County Hospital, Los Angeles, Cal.
Proctor Cook Waldo	Philadelphia General Hospital, Philadelpha, Pa.
Abraham Joseph Weinberg	Cook County Hospital

At the close of the Autumn Quarter, December 22, 1920:

John Anthony Bondzinski	Alexian Brothers' Hospital
Irving Robert Browning	Washington Boulevard Hospital
Jose Gonzales Carrillo	Passavant Hospital and St. Anne's Hospital, Chicago, Philippine General Hospital, Manila, P.I.
Albert Fred Clements	Presbyterian Hospital
Jay Jarvis Crane	Los Angeles County Hospital, Los Angeles, Cal.
Arthur Thomas Farisy	Chicago Lying-In and St. Joseph's Hospitals
Emanuel Bernard Fink	Durand Hospital. Also Research in Department of Pathology, University of Chicago
Richard Cotter Gamble	Cook County Hospital
Robert Hugh Graham	Presbyterian Hospital
Blair Holcomb	Cook County Hospital
Onis Harrison Horrall	Boston City Hospital, Boston, Mass.
Robert James Hyslop	Cook County Hospital
William Ambrosius Kristensen	Los Angeles County Hospital, Los Angeles Cal.
Clarence William Magaret	Presbyterian Hospital
Clifford J. Pearsall	Presbyterian Hospital
Josephine Elizabeth Platt	Los Angeles County Hospital, Los Angeles, Cal.
Carl Emil Schultz	St. Luke's Hospital

At the close of the Winter Quarter, March 18, 1921:

James Abram Butin	Children's Memorial Hospital and Chicago Lying-In Hospital
Roger Clifton Cantwell	Washington Boulevard Hospital
Gerritt Cotts	St. Joseph's Hospital
Roy Elwin Crowder	St. Joseph's Mercy Hospital, Sioux City, Iowa
Henry Binga Dismond	Provident Hospital
Verne Everett Eastman	Presbyterian Hospital and U.S. Marine Hospital, Chicago
James Bryan Eyerly	Presbyterian Hospital
DeWitt Howard Garlock	Los Angeles County Hospital, Los Angeles, Cal.
Robert Earl Grogan	Durand Hospital and Los Angeles County Hospital, Los Angeles, Cal.
Alice Kassie Hall	Los Angeles County Hospital, Los Angeles, Cal.
George Fielding Hibbert	St. Luke's Hospital
John Clark Hubbard	Grant Hospital
Durward Roscoe Jones	Norwegian American Hospital
Harry Edward Kasten	St. Luke's Hospital
Frank Brazzil Kelly	Michael Reese Hospital and Cook County Hospital
William Balmer Knox	West Suburban Hospital, Oak Park, Ill.
John Douglas Koucky	Gary Hospital, Gary, Ind., and Cook County Hospital
Magnus Wilkie Kyde	Murray Hospital, Butte, Mont.
Grant Harrison Laing	Washington Boulevard Hospital
James Howard Manning	Northern Pacific B.A. Hospital, Tacoma, Wash.
John Talmage Murchie	Presbyterian Hospital and Chicago Lying-In Hospital
Harry Alvin Oberhelman	Presbyterian Hospital
Elbert Smith Parmenter	Wesley Memorial Hospital
Ora Anson Rawlins	Norwegian American Hospital
Yetta Scheftel	Psychopathic Hospital and Oak Forest Infirmary
Herbert Carl Schlosser	St. Anthony de Padua Hospital
Mary Gritzner Schroeder	Psychopathic Hospital, Buffalo, Children's Hospital, Buffalo, N.Y., and New England Hospital for Women and Children, Boston, Mass.
George Smith	Murray Hospital, Butte, Mont.
Roy Esmond Smith	Los Angeles County Hospital, Los Angeles, Cal.
Maurice Acobert Spalding	Chicago Lying-In and Presbyterian Hospitals
Sylvester Stephen Stack	St. Joseph's Hospital

The following students received Certificate on the completion of the four years of the Medical Course at the close of the Spring Quarter, June 16, 1920:

Minard Allison	St. Margaret's Hospital, Kansas City, Kan.
Arthur Graham Asher	Presbyterian Hospital
Thomas James Aylward, Jr.	Michael Reese Hospital
Clifford Joseph Barborka	Presbyterian Hospital
Samuel Robert Barker	Michael Reese Hospital
Adam Roy Blakey	St. Luke's Hospital
Irwin Ellis Bowing	Washington Boulevard Hospital
Joseph Patrick Brennan	Presbyterian Hospital
John Lucian Calene	Presbyterian Hospital
Luman Elmer Daniels	Cook County Hospital
Otto Peter Diederich	San Diego County Hospital, San Diego, Cal.
Bruce Hutchinson Douglas	Harper Hospital, Detroit, Mich.
Evelina Wilhelmina Ehrmann	Cincinnati General Hospital Cincinnati, Ohio
John Harold Fitzgibbon	Presbyterian Hospital
Charles Edwin Galloway	Evanston Hospital
Lydian Paul Guttman	Cincinnati General Hospital, Cincinnati, Ohio
Howard Valmore Halbert	Children's Memorial Hospital
Louis Elmer Hanson	Miles City Hospital, Miles City, Mont.
Irma Hauser	The Woman's Hospital of Philadelphia, Pa.
Richard Hofstra	West Suburban Hospital, Oak Park, Ill.
Samuel John House	Barnes Hospital, St. Louis, Mo.
Joseph Jelinek	Los Angeles County Hospital, Los Angeles, Cal.
Elmer Arthur Johnson	St. Luke's Hospital and Cook County Hospital
Emanuel Mandel Kaplan	Michael Reese Hospital
Robert William Langley	Los Angeles County Hospital, Los Angeles, Cal.
John Harold Lloyd	San Diego County Hospital, San Diego, Cal.
Clinton Foster Palmer	Presbyterian Hospital
Arthur Sophus Juul Petersen	St. Luke's Hospital
John James Pink	Columbia Hospital, Milwaukee, Wis.
Henry Raile	Presbyterian Hospital
Floyd Harold Rush	Illinois Central Hospital
Edward Walter St. Pierre	Los Angeles County Hospital, Los Angeles, Cal.
Frederick Rehm Schmidt	St. Luke's Hospital
Joseph William Steckbauer	St. Louis City Hospital, St. Louis, Mo.
Edward Jacob Stone	Milwaukee County Hospital, Wauwatosa, Wis.

James Jay Swendson	St. Louis City Hospital, St. Louis, Mo.
Harry John Veatch	Presbyterian Hospital
Willard Lewis Veirs	Kansas City General Hospital, Kansas City, Mo.
Irving Wills	St. Joseph's Hospital
Roland Caldwell Young	Wabash Employees Hospital, Decatur, Ill.

At the end of the Summer Quarter, September 3, 1920:

George Morris Curtis	Presbyterian Hospital
Edmund Francis Foley	Cook County Hospital
Anna Barbara Grey	The New England Hospital for Women and Children, Boston, Mass.
James Albert Howell	St. Louis City Hospital, St. Louis, Mo.
Lee Turner Hoyt	West Suburban Hospital, Oak Park, Ill.
Alvin Reid Morrow	Cook County Hospital
John Calvin Weir Morrow	St. Joseph's Hospital
Fredrick William Mulsow	Durand Hospital
Cecil Kirke Russell	Kings County Hospital, Brooklyn, N.Y.
Mandel Sherman	Cook County Hospital
Arthur Wilson Smith	St. Luke's Hospital
Robert Norris Wimmer	Michael Reese Hospital

At the close of the Autumn Quarter, December 22, 1920:

Melvin Palmer Baken	St. Luke's Hospital
Robert Vivian Baker	Los Angeles County Hospital, Los Angeles, Cal.
James Francis Curry	Illinois Central Hospital and Cook County Hospital
Oscar Charles John Ericksen	U.S.P.H.S. Hospital No. 30.
Harry William Fink	Cook County Hospital
Harry Lester Fowler	Los Angeles County Hospital, Los Angeles, Cal.
Jay McKinley Garner	St. Luke's Hospital
Benjamin Peter Graber	King's County Hospital, Brooklyn, N.Y.
Parsegh Benjamin Khanlian	U.S.P.H.S. Hospital No. 30
William Duncan McNally	St. Joseph's Hospital
Everett Elliott Murray	Passavant Memorial Hospital and Buffalo, N.Y., City Hospital
Harry Albert Singer	U.S.P.H.S. Hospital No. 30, and Cook County Hospital
Walter Herman Spoenemann	Cook County Hospital
Julian Vivian Ware	

At the close of the Winter Quarter, March 18, 1921:

Stephen Pantelis Anthony	St. Joseph's Hospital
Jacob Arnold Bargen	St. Luke's Hospital
Carl Philip Bauer	Los Angeles County Hospital, Los Angeles, Cal.
Harry Fred Becker	Los Angeles County Hospital, Los Angeles, Cal.

Gorden Newall Best	Presbyterian Hospital
David Mitchell Blum	Michael Reese Hospital
Karl Kasper Borsack	Passavant Memorial Hospital
Leo Brandes	Los Angeles County Hospital, Los Angeles, Cal.
Alvia Brockway	Los Angeles County Hospital, Los Angeles, Cal.
Ernest James Brown	Madison General Hospital, Madison, Wis.
Susan Willard Brown	
William Jennings Brown	
William Cartland Bruff	Harper Hospital, Detroit, Mich.
Clifford Herbert Brush	Alexian Brothers Hospital
William Charles Buchbinder	Cook County Hospital
Allison Lovelle Burdick	Augustana Hospital
Henry Arthur Callis	St. Louis, Mo., City Hospital
Guy Walter Carlson	St. Luke's Hospital
Faris Franklin Chesley	Washington Boulevard Hospital
Clement Joseph de Bere	St. Joseph's Hospital
Carl Albert Dragstedt	Presbyterian Hospital
Camilles Ogden Driver	Los Angeles County Hospital, Los Angeles, Cal.
Robert Bert Faus	Psychopathic Hospital and Queen's Hospital, Honolulu, H.I.
Samuel Julian Fogelson	U.S.P.H.S. Hospital No. 30, and Cook County Hospital
Harry Tapley French	Mary Hitchcock Memorial Hospital, Hanover, N.H.
James Arthur Gough	
William McKean Greig	Psychopathic Hospital and Denver City and County Hospital
Harry Dewey Grossman	Michael Reese Hospital
Elmer William Hagens	Michael Reese Hospital
Raymond James Harrington	
Joseph Morris Harris	Los Angeles County Hospital, Los Angeles, Cal.
Clarence Nels Bugge Hatleberg	
Ralph Edward Hawes	Los Angeles County Hospital, Los Angeles, Cal.
Raymond Householder	Washington Boulevard Hospital
Evermont Robbins	
Huckelberry	Los Angeles County Hospital, Los Angeles, Cal.
Andrew Conway Ivy	Mercy Hospital
George Wilson Jones	Los Angeles County Hospital, Los Angeles, Cal.
Floyd Earl Keir	Presbyterian Hospital
Abe Fae Lashkowitz	
Herbert Ellis Landes	Presbyterian Hospital

Lawrence James Lawson	Gary Hospital, Gary, Ind., and Cook County Hospital
Frank Benjamin Leffert	Denver City and County Hospital, Denver, Colo., and Cook County Hospital
Samuel Lerner	Los Angeles, Calif., County Hospital
Julius Gordon Levy	
Benjamin Richard Lokke	
Leslie MacNaughton	Evanston Hospital
Howard Leslie Mawdsley	Washington Boulevard Hospital
Rollin Henry Moser	Washington Boulevard Hospital
Bernard Parker Mullen	U.S.P.H.S. Hospital No. 30
Walter Lincoln Palmer	Cook County Hospital
Lester Raymond Parson	Presbyterian Hospital
Melvin Bethuel Peterson	St. Luke's Hospital
Edmund Thorwald Remmen	Los Angeles County Hospital, Los Angeles, Cal.
Gordon Lester Rosene	Chicago Lying-In Hospital and Dispensary
Abraham Happy Rudolph	Cook County Hospital
Andrew Daniel Schick	Gary Hospital, Gary, Ind., and Cook County Hospital
William Frederic Schroeder	St. Luke's Hospital
Harold John Shelley	Presbyterian Hospital
Joseph Frank Shimpa	U.S.P.H.S. Hospital No. 30
Charles Arthur Siler	Philadelphia General Hospital, Philadelphia, Pa.
William Allen Smiley	Michael Reese Hospital
Gail Raney Soper	
Clarence Wiley Spears	Norwegian-American Hospital
Jules Caesar Stein	Cook County Hospital
Robert Stansmore Vivian	West Suburban Hospital, Oak Park, Ill.
Carl Joseph Weber	St. Elizabeth's Hospital
Charles Grafton Weller	Walter Reed U.S. Army Hospital, Washington, D.C.
Daniel Wilbur Wheeler	Peter Bent Brigham Hospital, Boston, Mass.
Leslie Haines Winans	U.S.P.H.S. Hospital No. 30
Matthew Winters	The Children's Memorial Hospital
Charles Corbin Yancey	The Allegheny General Hospital, Allegheny, Pa.
Orus Ray Yoder	

MATRICULATES FOR THE SESSION OF 1920–21

The following list includes only those students who were in attendance during one or more quarters, and who were entitled to take the quarterly examinations.

NOTE.—The naming of a degree not followed by the name of an institution in parentheses is understood to mean a degree conferred at the University of Chicago.

Where no institution is named, it is understood to mean that the student began his career as a Junior at the University of Chicago.

Where no state is mentioned, Illinois is understood.

ABBREVIATIONS.—U. = University; C. = College; S. = School; Hs. = High School; A. = Academy; Sm. = Seminary; Inst. = Institute (or Institution).

PERIOD OF RESIDENCE.—*s* = Resident during Summer Quarter, 1920; *a* = Resident during Autumn Quarter, 1920; *w* = Resident during Winter Quarter, 1921; *sp* = Resident during Spring Quarter, 1921.

FRESHMEN AND SOPHOMORES

Adams, Numa Pompilius Garfield, *s, a, w, sp,* Chicago. A.B. (Howard U.) '11.
Aleshire, Irma, *a, w,* Carthage. Senior C.
Alexander, Henry Preston, *a, w, sp,* Jonesville, Ind. Toledo U.; Senior C.
Allegretti, Joseph, *a, w, sp,* Chicago. Senior C.
Allen, James Ulysses, *s, a, w,* Chicago. S.B. (Howard U.) '14; S.B. '20.
Andelson, Mayo Morris, *a, w, sp,* Chicago. Senior C.
Anderson, Ernest Raymond, *a, w, sp,* Centuria, Wis. A.B. (Gustavus Adolphus C.) '20.
Ashby, John Sherman, *sp,* Fairmont, Neb. U. of Nebraska; U. of Iowa; Senior C.
Atkinson, Arthur John, *a, w, sp,* Chicago. Crane Junior C.; Senior C.
Bailey, Elmore Russell, *a, w, sp,* Chicago. S.B. '20.
Baird, Thomas Addison, *sp,* Wichita, Kan. Senior C.
Baker, Clyde Nelson, *sp,* Passic, N.J. Senior C.
Baker, William Jesse, *s, a, w, sp,* Quincy. S.B. (Knox C.) '17.
Barnett, George Alvin, *a, w, sp,* Canby, Ind. A.B. (Franklin C.) '17.
Behn, Walter Martin, *a, w, sp,* Gary, Ind. Senior C.
Belt, Robert Leroy, *a, w, sp,* Wellsville, Tenn. A.B. (Maryville C.) '20.
Bender, Lauretta, *sp,* La Grange. Senior C.
Bercovitz, Zacharias, *s,* Los Angeles, Cal. S.B. '20.
Berry, Joseph Alonzo, *a, w, sp,* Charleston, S.C. Fisk U.; Senior C.
Binswanger, Herbert, *a, w, sp,* St. Joseph, Mo. Senior C.
Blonder, Edwin Jean, *a, w, sp,* Chicago. Senior C.
Blumenstock, Julius, *a, w, sp,* Ludington, Mich. Armour Inst.; Senior C.
Bodmer, Stella Nason, *a, w,* La Grande, Ore. S.B. '20.
Bohning, Anne, *a, w, sp,* Fort Worth, Tex. A.B. (Smith C.) '15.
Bond, Charles Wesley, *a, w, sp,* Williamsburg, Ky. Knoxville C.; U. of Detroit; Senior C.
Bourquin, Helen, *s, a, w, sp,* Aspen, Colo. A.B. (Colorado C.) '15; S.M. '16.
Bowles, Ray McCune, *a, w, sp,* Mounds, Okla. U. of Oklahoma; S.B. '20.
Boyd, Elmer Louis, *s, a, w,* Norris City. S.B. '21.

Boyd, Theodore Elliott, *a, w, sp,* Ashland City, Tenn. U. of Tennessee; George Peabody C. for Teachers; Senior C.
Brandstadt, Wayne, *a, w, sp,* Oak Park. Senior C.
Branham, Sara Elizabeth, *a, w, sp,* Atlanta, Ga. A.B. (U. of Colorado) '19.
Breck, Merrick Roblee, *a, w, sp,* El Paso, Tex. Senior C.
Brown, Clarence Frank Gunsaulus, *s, a, w, sp,* Chicago. S.B. '19.
Burke, Chauncey Greeley, *sp,* Fort Smith, Ark. Senior C.
Burling, Fred Temple, *s,* Des Moines, Iowa. S.B. '20.
Burnight, Ernest Robert, *a, w, sp,* Los Angeles, Cal. A.B. (U. of Southern California) '17.
Camenisch, Solon William, *a, w,* Chicago. Lewis Inst.; Senior C.
Campbell, Leo Kempff, *s, a, w, sp,* Frankfort, Ind. S.B. '20.
Cannon, Paul Roberts, *s, sp,* Decatur. A.B. (James Millikin U.) '15.
Caplan, Samuel Sol, *sp,* Chicago. New York U.; Senior C.
Carey, Earl Stafford, *s, a, w, sp,* Chicago. S.B. '20.
Carlson, Guy Edwin, *a, w, sp,* Stromsburg, Neb. A.B. (Grand Island C.) '15.
Carter, Jay Bailey, *a, w, sp,* Persia, Tenn. U. of Tennessee; Senior C.
Carter, William Noble, *a, w, sp,* Detroit, Mich. S.B. '20.
Castaing, Pedro Alvaro, *s,* Ponce, P.R. Senior C.
Chin, Walter Seong, *s, a, w,* Honolulu, T.H. S.B. '21.
Chin, Yan Cheong, *a, w, sp,* Honolulu, T.H. Creighton C.; Senior C.
Clark, Darrell Grant, *s, a, w, sp,* Odgen, Utah. Senior C.
Clarke, Elton Russell, *s,* Franklin, Ind. A.B. (Butler C.) '15.
Clauser, Clarence Francis, *a, w,* Bridgewater, S.D. S.B. '21.
Clippert, Clarence Grover, *s, a, w, sp,* Chicago. S.B. (Michigan Agricultural C.)
Clowes, Leo Clifford, *s,* Centralia. A.B. (Illinois C.) '12.
Cohn, Nathan, *s, a, w, sp,* Chicago. S.B. '21.
Collins, Everett Naughton, *s,* Fernville, Mich. S.B. '19.
Constable, Kate Carney, *a, w, sp,* Chicago. A.B. (Randolph-Macon Woman's C.) '14.
Coombs, Robert Adolph, *a, w, sp,* Chicago. Senior C.
Cooper, Ethel Florence, *a, w, sp,* Washington. S.B. '16.
Cooper, Finis Gaston, *sp,* Selma, Ala. A.B. (Maryville C.) '18.
Cope, Henry Erwin, *a, w, sp,* Chicago. S.B. '16.
Corkill, Clifford Clayton, *a, w, sp,* Hurley, S.D. Ph.G. (South Dakota State C.) '16; Senior C.
Costa, Frank John, *a, w, sp,* Tampa, Fla. Senior C.
Craig, Alfred Leslie, *s, a, w, sp,* Long Beach, Cal. S.B. '20.
Craig, Lyle Glenn, *a, w, sp,* Canon City, Colo. S.B. (Monmouth C.) '19.
Crawford, Howard Everett, *a, w, sp,* Powell, Wyo. Senior C.
Crawford, Robert Acheson, *sp,* Chicago. U. of Illinois; Senior C.
Crooks, Toney Taylor, *s,* Fredonia, Kan. A.B. (U. of Idaho) '09; A.B. (Oxford U., England) '13.
Crowe, Stanley Maxwell, *s, a, w, sp,* Charleston. S.B. '20.
Culbertson, Charles Carlton, *a, w, sp,* Joliet. Joliet Junior C.; Senior C.
Cunningham, Terrence Thomas, *sp,* Seattle, Wash. Bellingham (Wash.) Normal School; U. of Montana; State C. of Washington; Senior C.

Dabbs, Howard Burtnell, *s*, *a*, Fort Worth, Tex. A.M. (Texas Christian C.) '11.
Delaney, Patrick Arthur, *a*, *w*, *sp*, Bangor, Me. Kirksville State Normal; Senior C.
Dixon, Ruth, *a*, *w*, Chicago. Senior C.
Doepp, William Clarence, *a*, *w*, *sp*, Blue Island. Senior C.
Dougherty, Clifford Lester, *s*, *a*, *w*, *sp*, Marengo. Ph.G. (U. of Michigan) '11; S.B. (U. of Michigan) '13.
Eddy, Murray Chadwick, *sp*, Colby, Kan. Kansas State U.; Senior C.
Eggert, Fred Otto Emil, *a*, *w*, *sp*, Chicago. Senior C.
Elliott, Floyd Milton, *a*, *w*, Ada, Ohio. Ph.B. (Ohio Northern U.) '13.
Ellwood, Paul Murdock, *a*, *w*, *sp*, South Bend, Ind. Senior C.
Elston, Ralph Wickwire, *a*, *w*, *sp*, Angola, Ind. A.B., S.B. (Tri-State C.) '17.
Enos, Grace, *s*, Jerseyville. S.B. '20.
Erickson, Ralph Wennerberg, *w*, *sp*, Fairfield, Ala. Howard C.; Senior C.
Fanson, Anna Ethel, *s*, Assumption. A.B. (Maryville C.) '13.
Faus, Robert Bert, *s*, Boulder, Colo.
Fenwick, Herbert Frederick, *sp*, Chicago. U. of Indiana; Senior C.
Ferguson, Eugene Hobart, *a*, *w*, *sp*, Zionsville, Ind. S.B. '21.
Fikany, Ethel Mary, *s*, *a*, *w*, *sp*, Trinidad, Colo. S.B. '17.
Files, Edward Hasty, *a*, *w*, *sp*, Cedar Rapids, Iowa. S.B. '21.
Fishbein, William, *a*, *w*, *sp*, Indianapolis, Ind. Senior C.
Fisher, Nelson Franklin, *a*, *w*, *sp*, Milton, Pa. A.B. (Gettysburg C.) '18.
Fowler, Harry Lester, *s*, Chicago. A.B. (Morningside C.) '16; Ph.G. Babcock Inst. of Pharmacy) '12; S.M. (Jefferson Medical C.) '18.
Fox, Leda Ruth, *sp*, River Forest. Ph.B. '19.
Fox, Noah, *a*, *w*, Chicago. S.B. '20.
Frankenthal, Lester Emanuel, *a*, *w*, *sp*, Chicago. Ph.B. (Sheffield Scientific S.) '20.
Friedman, Harry, *a*, *w*, *sp*, Chicago. Senior C.
Geiger, Sara Gertrude, *a*, *w*, *sp*, Carthage. A.B., E.B. (U. of Colorado) '14.
Gerard, Ralph Waldo, *s*, *a*, *w*, *sp*, Chicago. S.B. '19.
Gibson, Alvah Hazen, *s*, *a*, *w*, *sp*, Milwaukee, Wis. Milwaukee State Normal S.: Senior C.
Gibson, Carl Chesney, *s*, Chicago. S.B. (Denison U.) '11; A.M. (Columbia U.) '13.
Gilliland, Mary Leota, *sp*, Cooter, Mo. Cape Girardeau State Teachers' C.; U. of Missouri, Iowa State C.; Valparaiso U.; Senior C.
Goldberg, Benjamin, *a*, *w*, *sp*, Chicago. S.B. '19.
Goldin, Sidney, *a*, *w*, Chicago. Senior C.
Gordon, David King, *a*, *w*, *sp*, Chicago. Senior C.
Gordon, John Everett, *s*, *a*, *w*, *sp*, Chicago. Ph.G. (Northwestern U.) '13; Ph.C. (Northwestern U.) '14; S.B. '16.
Gouwens, Willis Eugene, *a*, *w*, *sp*, South Holland. S.B. '18.
Graber, Rex Edgar, *a*, *w*, Freeman, S.D. S.B. '20.
Grauer, Theophil Paul, *s*, *a*, *w*, Wausau, Wis. S.B. '20.
Gray, Percival Allen, *sp*, Chicago. Northwestern U.; Senior C.
Green, Raymond, *a*, *w*, *sp*, Chicago. Senior C.
Griffey, Edward Waddy, *sp*, Chicago. Valparaiso U; Senior C.

Grimes, John Maurice, *sp*, Angola, Ind. Ph.B. '20.
Gurevitz, Eli, *a*, *w*, *sp*, Chicago. Senior C.
Guy, Chester Chappell, *s*, *a*, *w*, *sp*, Danville. S.B. '21.
Hall, Fanny Elizabeth, *a*, *w*, *sp*, Hudson, Mich. Hillsdale C.; Senior C.
Hamilton, Gerald Watson, *a*, *w*, New Plymouth, Idaho. S.B. '21.
Hamilton, Jacob Ralph, *s*, *a*, *w*, *sp*, Church Hill, Tenn. S.B. '20.
Hansen, Arthur Henry, *a*, *w*, *sp*, Hammond, Ind. Senior C.
Harris, Ralph Lee, *w*, Dumont, Iowa. S.B. '18.
Hatfield, Howard Lancing, *a*, *w*, *sp*, Moscow, Idaho. S.B. (U. of Idaho) '19.
Haupt, Mrs. Walter (Mary Alden Morgan), *a*, *w*, *sp*, Chicago. A.B. (Bryn Mawr) '12; A.M. (Teachers C., Columbia U.) '18.
Hawkins, John Ruskin, *a*, *w*, Maryland, Mo. A.B. (U. of Missouri) '19.
Hawkins, Winfred Weeder, *a*, *w*, *sp*, Lawrence, Kan. A.B. (U. of Missouri) '13; A.M. (U. of Missouri) '14.
Hays, Victor Josiah, *s*, *a*, *w*, Chicago. A.B. (Morningside C.) '11; Ph.D. (U. of Iowa) '14.
Heatherington, Jean, Bellaire, Ohio. S.B. '19.
Henderson, Philip Harold, *a*, *w*, *sp*, Colville, Wash. Washington State C.; Senior C.
Herrick, Ruth, *s*, Chicago. S.B. '18.
Hertzfield, Morris Wolf, *s*, Chicago. S.B. '18.
Heusinkveld, David William, *s*, *a*, *w*, *sp*, Fulton. S.B. '21.
Hickman, Harry E., *sp*, Meadville, Pa. A.B. (Valparaiso U.) '17.
Hirsch, Daniel Louis, *a*, *w*, *sp*, Chicago. Senior C.
Hiss, Karl Louis, *s*, *a*, *w*, Toledo, Ohio. S.B. '21.
Holck, Harold Groth Oxholm, *sp*, Copenhagen, Denmark. Senior C.
Horick, Edward Joseph, *a*, *w*, *sp*, Woodstock, Loyola U.; Senior C.
Hork, Jeanette, *a*, La Grange. Senior C.
Howe, Katherine, *a*, *w*, *sp*, Glen Ellyn. Wellesley C.; Senior C.
Huang, Tse Fang, *s*, *a*, *w*, *sp*, Kulangsu, Amoy, China. U. of Honkong Medical S. S.B. '21.
Hudson, Noel Paul, *a*, *w*, *sp*, Wayne City. A.B. (James Millikin U.) '17.
Huml, Richard James, *a*, *w*, *sp*, Chicago. Senior C.
Hunt, Guy Anderson, *s*, *a*, *w*, Portage, Mont. S.B. '19.
Jacobs, Merrill Ralph, *a*, *w*, *sp*, Chicago. Senior C.
Janson, Carl Helge, *a*, *w*, *sp*, Blue Island. Senior C.
Johnson, Carl Gilbert, *s*, Marshalltown, Iowa. S.B. '20.
Johnson, Clarence Emery, *w*, Marshalltown, Iowa. U. of Iowa Medical S.
Johnson, Donald Warner, *s*, Fairmount, Minn. S.B. '21.
Johnson, Frances, *a*, Ireton, Iowa. A.B. (U. of Iowa) '13.
Johnson, Stanley Frederick, *a*, Rockford. Senior C.
Johnston, Robert Lee, *a*, *w*, *sp*, Wilmington, N.C. Trinity C.
Jonker, William John, *a*, *w*, *sp*, Grand Rapids, Mich. A.B. (Calvin C.) '19.
Kabayao, Doroteo Solis, *a*, *w*, *sp*, Horto Horto, P.I. Silliman Inst; Senior C.
Kato, Katsuji, *a*, *w*, *sp*, Osaka, Japan. A.B. (Kalamazoo C.) '09; A.M. '10; D.B. '11; Ph.D. '13.
Kaufman, Paul Myron, *a*, *w*, *sp*, Georgetown, Ohio. Senior C.
Kilborne, Norman Joseph, *s*, *a*, *w*, *sp*, East Orange, N.J. A.B. (Yale U.) '15; A.M. (Columbia U.) '17.

Kiley, Mathew Joseph, *a, w, sp,* Saratoga Springs, N.Y. Colgate U.; Senior C.
King, Eugene Pargny, *s, a, w, sp,* Louisville, Ky. S.B. (Fisk U.) '16.
Kiser, Sara Margaret, *sp,* Chardon, Ohio. Western Reserve U.; Senior C.
Klawans, Harold Leo, *a, w, sp,* Chicago. Senior C.
Klier, Harry Perl, *sp,* Newton. Illinois State Normal U; Senior C.
Kloster, Grant Melvin, *sp,* Forest City, Iowa. S.B. '20.
Kohler, Raymond Lloyd, *a, w,* Chatsworth. Illinois Wesleyan U.; U. of Illinois; U. of Michigan; Senior C.
Kopstein, Benjamin Bernard, *sp,* Sioux City, Iowa. Morningside C.: Senior C.
Krause, Dorothy Josephine, *a, w, sp,* Colorado Springs, Colo. A.B. (Vassar C.) '17.
Kroener, William Frederick, *sp,* Santa Ana, Cal. U. of Michigan; Senior C.
Krueger, Arvid Mitchell, *a, w, sp,* Chicago. Senior C.
Kunde, Margarete Meta Hedwig, *s, a, w, sp,* Lacy, S.D. A.B. '17; S.B. (U. of Nebraska) '19.
Kwan, Sung Tao, *s, a, w, sp,* Washington, D.C. S.B. '20.
La Bier, Clarence Russell, *a, w, sp,* Terre Haute, Ind. A.B. (U. of Illinois) '20.
Lai, Daniel Gan, *s, a, w, sp,* China. A.B. (Shanghai Baptist C.) '18; S.B. '21.
Lambird, Clifford David, *s,* Newton. S.B. '20.
La Mont, Wyant, *a, w, sp,* Chicago. Loyola U.; Senior C.
Lawrence, John Vincent, *s,* Chicago. S.B. '17.
Lawton, Stanley Edward, *a, w,* Petersburg. Senior C.
Leichenger, Harry, *a, w, sp,* Chicago. Senior C.
Leiter, Louis, *s,* Chicago. S.B. '19.
Leventhal, Meyer Leo, *a, w, sp,* Chicago. Senior C.
Lewis, George Cecil, *s,* Chicago. S.B. '19.
Lichtenstein, Manuel Emil, *sp,* Chicago. Crane Junior C.: Senior C.
Lichtenstein, Meyer Ray, *a, w, sp,* Chicago. S.B. '21.
Litt, Sol, *sp,* Chicago. Senior C.
Logsdon, Glenn Taylor, *a, w, sp,* Wichita, Kan. Senior C.
Long, Esmond Ray, *a, w, sp,* Chicago. A.B. '11; Ph.D. '13.
Loomis, Frank Chester, *a, w, sp,* Marcus, Iowa. Iowa State C.; Senior C.
Love, Abraham Isaac, *a, w, sp,* Chicago. Crane Junior C.; Lewis Inst.; Senior C.
Lovett, Beatrice Russell, *s, a, w, sp,* Chicago. S.B. '19.
Ludolph, John Michael, *s, a, w,* Chicago. Senior C.
Lund, Arthur Edward, *sp,* Chicago. Lewis Inst.; Senior C.
Lyons, Joanna, *a, w, sp,* Chicago. DePaul U.; Lewis Inst.; Senior C.
Madden, Earl Emanual, *a, w, sp,* Chicago. Senior C.
Maddux, Walter Henry, *a,* Kansas City, Kan. A.B. (U. of Kansas) '14.
Madsen, August, *sp,* Wayne, Neb. U. of Nebraska; Senior C.
Manly, Marian Esther, *s, a, w, sp,* Delaware, Ohio. A.B. (Ohio Wesleyan U.) '19.
Marks, Morton Green, *a, w, sp,* Chicago. Senior C.
Mason, Rebecca Holton, *a, w, sp,* Chicago. A.B. (U. of Minnesota) '16.
Masten, Mabel Garden, *sp,* Darlington, Wis. Senior C.
Matheson, Abe, *a, w, sp,* Chicago. Senior C.
May, Frederick Tracy, Jr., *a, w, sp,* Peoria. Senior C.
Mayer, Harry Jeremiah, *a, w, sp,* Chicago. U. of Alberta; Senior C.

Mead, Irene Tufts, Mrs., *s, a, w, sp,* Chicago. A.B. '15.
Mead, Myrogene, *a, w, sp,* Berthoud, Colo. S.B. '16.
Melick, Clark Owen, *s, a,* Chicago. S.B. (Ohio U.) '10.
Merillat, Irene Socialista, *a, w, sp,* Sleepy Eye, Minn. S.B. '21.
Meyer, Harold Irving, *sp,* Kankakee.
Meyer, Samuel James, *s, a, w, sp,* Chicago. Senior C.
Milam, Daniel Franklin, *s, a, w,* Jacksonville, Fla. A.B. (Vanderbilt U.) '16.
Miller, Clara, *s,* Chicago. Ph.B. '06.
Miller, Fred Nathan, *a, w, sp,* Easton, Pa. A.B. (Lafayette C.) '14; A.M. (*ibid.*) '16.
Miller, Wilfred Stare, *a, w, sp,* Decatur. A.B. (James Millikin U.) '19.
Moffat, William McKie, *s, a, w, sp,* Fort Wayne, Ind. A.B. (Lafayette C.) '15.
Moran, Robert Edward, *a, w, sp,* Chicago. Loyola U.; Senior C.
Morris, George Edward, *a, w, sp,* Burlington, Iowa. Senior C.
Muir, Kathleen Burns, *a, w, sp,* Roseau, Minn. Vassar C.; Beloit C.; Senior C.
Mulliken, Oscar Dale, *s, sp,* Humbolt. S.B. '20.
Munger, Elbert Ervin, *a, w, sp,* Spencer, Iowa. S.B. '21.
Murphy, George Thomas, *a, w, sp,* Chicago. A.B. (U. of Illinois) '20.
Mussil, Julius Joseph, *sp,* Chicago. Diploma, U.S. Military Academy, '18.
MacCallum, Daniel Bartlett, *s, a, w,* Decatur. S.B. '20.
McCarthy, Charlotte, *a, w, sp,* Evanston. Chicago Normal C.; Senior C.
McClanahan, Esther, *s,* Columbus, Miss. S.B. (Mississippi Industrial Inst. and C.) '16.
Macdonald, Carolyn, *a, w, sp,* Chicago. Senior C.
MacDonald, Tony Mark, *s,* Salida, Colo. S.B. '09.
McKay, William Monroe, *a, w, sp,* Ogden, Utah. Senior C.
McKie, Mildred Winnifreed, *sp,* Northboro, Iowa. S.B. (Tarkio C.) '18.
McLoone, James Egan, *s,* Chicago. S.B. '20.
Nadelhoffer, Luella, *a, w,* Downers Grove. S.B. '21.
Narmonta, Liudyta Phyllis, *a, w, sp,* Chicago. Senior C.
Nelson, Benjamin Tell, *s, a, w, sp,* Chicago. S.B. '20.
Nelson, Esther Serida, *s,* Manhattan, Kan. S.B. (Kansas State Agricultural C.) '15.
Nicholson, Frederic Max, *s, a, w, sp,* Chicago. S.B. '18.
Nickel, John William, *sp,* Kamiah, Idaho. U. of Idaho; Senior C.
Nienhius, John Edward, *s,* Oak Park. A.B. (Hope C.) '18.
Nordlander, Thure Alexander, *a, w, sp,* Rockford. S.B. '21.
Olson, Ernest, *a,* Chicago. Senior C.
Onserud, Helen Andrine, *a, w, sp,* Usk, Wash. Leland Stanford Junior U.; Senior C.
Palmer, Donald Ainslee, *s, a, w, sp,* Castle Rock, Colo. S.B. '20.
Parmelee, Jane M., *w,* Rochelle. S.B. '19.
Parr, Leland Wilbur, *s, a, w, sp,* Chicago. S.B. '16.
Parsons, Eloise, *s, a, w, sp,* Roswell, N.M. A.B. (Randolph-Macon Woman's C.) '17.
Peacock, Silber Charles, *a, w, sp,* Quincy. S.B. (Knox C.) '20.
Pearcy, James Frank, *a, w, sp,* Portland, Ore. Reed C.; Senior C.
Pease, Charles Nelson, *w,* Chicago. S.B. '19.

Perzik, Samuel, *sp*, Oak Park. Senior C.
Peterson, Evan Adolph, *a*, *w*, *sp*, Galesburg. S.B. (Knox C.) '20.
Phillips, Minnie Alice, *a*, *w*, *sp*, Chicago. A.B. (U. of Illinois) '17.
Pick, John Francis, *a*, *w*, *sp*, Chicago. Senior C.
Pickett, Catherine Montgomery, *a*, *w*, Maywood. S.B. '20.
Pierce, Mila Ione, *a*, *w*, *sp*, Chicago. Senior C.
Pinc, Otto Charles, *a*, *w*, *sp*, Chicago. Senior C.
Potts, Willis John, *a*, *w*, *sp*, Holland, Mich. Hope C.; Senior C.
Proctor, David Thornton, *sp*, Nampa, Idaho. U. of Idaho; Senior C.
Quaintance, Paul Atlee, *a*, *w*, *sp*, Bucyrus, Ohio. Defiance C.; U. of Pittsburgh; Senior C.
Rainey, Clarence Wager, *s*, *a*, *w*, Pueblo, Colo. S.B. '17.
Remmert, Arthur Theodore George, *a*, *w*, *sp*, Mount Olive. Senior C.
Rennick, Charles Finley, *a*, *w*, *sp*, Paducah, Ky. Georgetown C.; Senior C.
Reynolds, Benjamin Johnson Chapman, *s*, Paducah, Ky. S.B. '19.
Rhoads, Paul Spottswood, *a*, *w*, *sp*, Terre Haute, Ind. Indiana State Normal; Senior C.
Richter, Richard, *a*, *w*, *sp*, La Porte, Ind. Senior C.
Rider, Dean Loller, *s*, Bushnell. S.B. '20.
Rind, Rudla, *a*, *w*, *sp*, Seattle. S.B. '20.
River, Louis Philip, *a*, *w*, *sp*, Oak Park. Senior C.
Robinson, William Witten, *a*, *w*, *sp*, Chicago. Whitman C.; Senior C.
Rogers, Katherine, *w*, *sp*, Toronto, Can. S.B. '19.
Romig, Ronald Curtis, *a*, *w*, Moscow, Idaho. S.B. (U. of Idaho) '19.
Rosenbloom, Philip Jack, *a*, *w*, Chicago. Senior C.
Rosengrant, George, *a*, *w*, Chicago. Senior C.
Rukstinat, George John, *a*, *w*, *sp*, Chicago. Senior C.
Sandie, Joseph, *s*, *a*, *w*, South Moorhead, Minn. A.B. (Fargo C.) '19.
Sanford, Heyworth Naylor, *a*, *w*, *sp*, Portland, Ore. Reed C.; Senior C.
Schaefer, Joseph Ernst, *s*, *a*, *w*, *sp*, Chicago. S.B. (Lewis Inst.) '20.
Schoenbeck, Robert Frederick, *a*, *w*, *sp*, Dubuque, Iowa. Senior C.
Schutz, Elmer Scenas, *a*, *w*, *sp*, Pandora, Ohio. A.B. (Otterbein C.) '18.
Scott, Philip Albright, *s*, Emmetsburg, Iowa. S.B. '19.
Seron, Zaven, *a*, *w*, Joliet. Joliet Junior C.; Senior C.
Serra, Americo Colon, *a*, *w*, *sp*, Ponce, P.R. U. of Porto Rico; Senior C.
Setzer, George Warren, Jr., *s*, *a*, *w*, *sp*, Chicago. Senior C.
Shapinsky, Theodore, *s*, *a*, *w*, Chicago. Normal C. of N.A.G.U.; Senior C.
Shapiro, William, *a*, *w*, *sp*, Chicago. Senior C.
Siler, Charles Arthur, *a*, Chicago. A.B. (U. of Kansas) '07; M.D. (U. of Kansas Medical S.) '10.
Siminson, Irwin Dave, *a*, *w*, *sp*, Buena Vista, Colo; U. of Colorado; U. of Michigan; Senior C.
Simkin, William, *sp*, Chicago. Lewis Inst.; Senior C.
Sloan, Leigh Edmund, *a*, *w*, *sp*, Kalispell, Mont. U. of Montana; Senior C.
Smith, Harold Edward, *a*, *w*, *sp*, Maywood. Maryville C.; Senior C.
Smith, Matthew Thomas, *s*, Chicago. S.B. '20.
Smith, Warren Braman, *s*, *a*, *w*, *sp*, Waukesha, Wis. A.B. (Carroll C.) '12.
Sperl, Joseph Tours, *s*, Pomona, Cal. A.B. (Pomona C.) '16.

Stark, Morris, *a*, *w*, Toledo, Ohio. U. of Michigan Medical S.
Stegeman, Wilson, *s*, Holland, Mich. S.B. '19.
Stein, Jules Caesar, *s*, South Bend, Ind. Ph.B. '15.
Steinberg, Milton, *a*, *w*, *sp*, Chicago. Senior C.
Stieglitz, Edward J., *s*, Chicago. S.B. '18.
Stoll, John Esher, *s*, *a*, *w*, *sp*, Chicago. Senior C.
Sullivan, Andrew Joseph, *s*, *a*, *w*, Chicago. S.B. '20.
Sweany, Henry Claris, *s*, Eugene, Ore.; Senior C.
Swickard, William M., *a*, *w*, *sp*, Newman. U. of Illinois; Senior C.
Taylor, Ruth Elaine, *s*, *a*, *w*, *sp*, Emerson, Iowa. S.B. (Parsons C.) '18.
Theis, Frank Victor, *s*, *a*, *w*, *sp*, Chicago. S.B. '20.
Thompson, Harold L., *s*, *a*, *w*, *sp*, Bayard, Iowa. A.B. (U. of Iowa) '19.
Thurliman, Otmar, *a*, *w*, *sp*, Chicago. Conception C.; Senior C.
Thurston, Hubert Franklin, *a*, *w*, *sp*, Summitville, Ind. A.B. (Franklin C.) '19.
Tower, Lucia Elizabeth, *a*, *w*, *sp*, Chicago. S.B. '20.
Tower, Sarah Sheldon, *a*, *w*, *sp*, Chicago. Senior C.
Trapp, Anthony Nicholas, *a*, *w*, *sp*, Garrett, Ind. Senior C.
Turner, Edgar Cleveland, *s*, *a*, *w*, *sp*, Cherokee, Iowa. S.B. (Grinnell C.) '17.
Turner, Edward Lewis, *sp*, Payette, Idaho. U. of Idaho; Senior C.
Turner, George Cleveland, *a*, *w*, *sp*, Cherokee, Iowa. Grinnell C.; Senior C.
Van Dyck, Laird Sumner, *s*, *a*, *w*, *sp*, New York City. A.B. (Rutgers C.) '15.
Van Dyke, Harry Benjamin, *s*, *a*, *w*, Des Moines, Iowa. S.B. '18.
Van Hazel, Willard, *a*, *w*, *sp*, Grand Rapids, Mich. A.B. (Hope C.) '20.
Vaughn, Arkell Meyers, *a*, *w*, *sp*, Greenville. Washington U.; Senior C.
Vorisek, Elmer Albert, *a*, *w*, *sp*, Chicago. Senior C.
Vynalek, William John, *a*, *w*, *sp*, Chicago. Crane Junior C.; Senior C.
Wagoner, Frank Floyd, *a*, *w*, *sp*, Delphi, Ind. Indiana U.; Senior C.
Wair, Donald, *s*, *a*, *w*, *sp*, LaPorte, Ind. Princeton U.; Senior C.
Wakefield, Howard, *a*, *w*, *sp*, Chicago. S.B. '17.
Ward, Harrison Frederick, *a*, *w*, *sp*, Valparaiso, Ind. New York U.; Valparaiso U.; Senior C.
Warden, Marine Ruffner, *a*, *w*, *sp*, Lyons, Kan. S.B. '20.
Watkins, Richard Watkin, *a*, Granville, Ohio.
Weeter, Harry Montgomery, *s*, *a*, *w*, *sp*, Rimersburg, Pa. A.B. (Allegheny C.) '11.
Weil, Beatrice, *s*, *a*, *w*, *sp*, Chicago. Ph.B. '18.
Weiss, Jacob Allen, *a*, *w*, *sp*, Chicago. Senior C.
Whitney, Homer Higgs, *s*, *w*, Fonda, Iowa. S.B. '21.
Wiedemer, Lottie, *s*, *a*, *w*, Norwood, Ohio. A.B. (U. of Cincinnati) '13.
Wiking, Sven Frederic, *a*, *w*, Seattle, Wash. S.B. '21.
Wilhelmi, Lawrence John, *s*, *a*, *w*, Joliet. S.B. (Knox C.) '17.
Wilson, Arthur Nash, *a*, *w*, *sp*, Pueblo, Colo. A.B. (Colorado C.) '20.
Wilson, Margaret Elizabeth, *s*, Chicago. A.B. (Wellesley C.) '17.
Wilson, Myrta Mae, *s*, West Alexandria, Ohio. S.B. (Ohio Wesleyan U.).
Wippern, Virgil, *s*, *a*, *w*, *sp*, Chicago. Senior C.
Wolffson, Sol, *a*, *w*, *sp*, Fort Worth, Tex. Texas Christian U.; Senior C.
Woodman, Thomas Winfrey, *a*, *w*, *sp*, Phoenix, Ariz. Leland Stanford U.; Senior C.

Wright, Robert Elmore, *sp*, Cambridge City, Indiana. A.B. (Hanover C.) '18.
Zavertnik, John Joseph, *w*, *sp*, Chicago. S.B. '20.
Zerbolio, Dominic Joseph, *a*, *w*, *sp*, Beuld. Senior C.
Ziskind, Eugene, *a*, *w*, *sp*, Chicago. Senior C.

MEN—275 WOMEN—56 TOTAL—331

SPECIAL STUDENTS TAKING MEDICAL COURSES

Abt, Arthur Frederick, *s*, Chicago. S.B. '18. Johns Hopkins Medical S.
Adams, Vera Huchinson, *s*, Kewanee. Senior C.
Adelson, Samuel, *s*, Newport, R.I. Tufts College Medical S.
Alcivar, Ernest, *s*, New York City, N.Y. U. of Illinois Medical S.
Anson, Berry Joseph, *s*, Muscatine, Iowa. A.B. (U. of Wisconsin) '17.
Arado, Mae Camella, *w*, *sp*, Oak Park. U. of Illinois.
Babcock, Hubert Joseph, *s*, Miami, Fla. U. of Georgia.
Baker, Joseph Henry, *s*, Bellevernon, Pa. U. of Pittsburgh S. of Medicine.
Baker, Lyle L., *sp*, Houston, Tex. Senior C.
Barrow, Elva Endora, *s*, Ferrum, Va. A.B. (Randolph-Macon Woman's C.) '11.
Bartlett, May, *a*, *sp*, Evanston. A.B. (Smith C.) '19.
Bartolome, Juanito Armando, *a*, *w*, Pila Laguna, P.I. Stanford U.; U. of Wisconsin Medical S.
Bascom, Kellog Finley, *s*, *w*, *sp*, Fargo, N.D. A.B. (Fargo C.) '16; S.M. (U. of C.) '19.
Bast, Theodore Hieronymus, *s*, Rockfield, Wis. A.B. (Ripon C.) '12.
Bedwell, Ivyl Clare, *s*, Purdin, Mo. U. of Nebraska C. of Medicine.
Bell, William Wilberforce, *s*, Bawlf, Alberta, Can. U. of Alberta Medical S.
Ben-Harel, Shulamite, Richon, L'Zion, Palestine. A.B. (Constantinople C.) '19.
Bernhard, Louis Arnold, *s*, Milwaukee, Wis. Northwestern U. Medical S.
Blish, Mary Eleanor, *w*, *sp*, Fond du Lac, Wis. Senior C.
Blye, Franklin Wetmore, *w*, Chicago. Senior C.
Bodemer, Herman Charles, *s*, Omaha, Neb. U. of Nebraska Medical S.
Bolles, Laura J., *sp*, Brookings, S.D. S.B. '16.
Boner, Albert Jay, *s*, Chicago. U. of Illinois.
Bowen, Ulysses Simpson, *s*, Chicago. U. of Georgia Medical Department.
Byrne, Eleanor Miriam, *w*, Chicago. Senior C.
Cailles, Jose Zialcita, *s*, Manila, P.I. Loyola U. Medical S.
Caldeira, Antonio Dias, *s*, Port-of-Spain, Trinidad, B.W.I. Loyola U. Medical S.
Caldwell, David Paul, *s*, Chicago. Hahnemann Medical C.
Caldwell, George Harold, *sp*, Chicago. Senior C.
Christman, Adam Arthur, *s*, Shanon. S.B. (Grinnell C.) '17. S.M. (U. of Illinois) '20.
Congdon, Charles Bennett, *sp*, Hibbing, Minn. U. of Minnesota; Junior C.
Conly, Arthur Hobart, *s*, Chicago. Northwestern U. Medical S.
Conn, John Ferguson, *s*, Franklin, Ky. S.B. (Georgetown C.) '20.
Connor, Charles Edward, *a*, St. Paul, Minn. M.D. (Johns Hopkins Medical S.) '14.
Cordray, Palmer Lloyd, *s*, Columbus, Ohio. Ohio State U. College of Medicine.
Cory, Herman Emanuel *s*, Indianapolis, Ind. Butler C.; Senior C.

Creekmuir, Frances, *s*, Chicago. S.B. '18.
Cross, Charles H., *s*, Thornton, Ind. S.B. (Franklin C.) '19.
Crumly, Francis Elmer, *a*, *sp*, Woodlake, Cal. Whittier C.; Senior C.
Danielian, Arthur Charles, *s*, Fresno, Cal. A.B. (U. of Southern California) '17; Johns Hopkins Medical S.
Davis, Lloyd Hayes, *s*, Chicago. A.B. (Wabash C.) '11; A.M. (U. of Illinois) '13.
Delaney, Oscar Minton, *s*, Dover, N.J. Bellevue Medical School; U. of Wisconsin.
Deming, Julia, *s*, Oswego, Kan. A.B. (Bryn Mawr C.) '16; Woman's Medical C. of Pennsylvania.
Dempsey, Mark, *s*, Yeager, Ky. M.D. (Hospital C. of Medicine) '07.
Downs, Vernon Sawyer, *sp*, Ottumwa, Iowa. Lake Forest C.; Senior C.
Doyle, James I., *s*, Chicago. Loyola U. Medical S.
Dunn, Halbert Louis, *s*, A.B. (U. of Minnesota) '17; A.M. (*ibid.*) '20; U. of Minnesota Medical S.
Dykhuizen, Peter Allen, *s*, Grand Rapids, Mich. U. of Michigan Medical S.
Eisenstadt, David Henry, *s*, Minneapolis, Minn. U. of Minnesota Medical S.
Farrar, Edith Barnes, *a*, New Orleans, La. A.B. (Sophie Newcomb C.) '06.
Faubion, Ray, *s*, Ontario, Cal. Northwestern U.
Faust-Newton, Cosette, *s*, Dallas, Tex. A.B., S.B. (Polytechnic C.) '11; A.M. (U. of Texas) '12; Ph.D. (Radcliffe C.) '16.
Fleischner, Julius, *s*, Chicago. U. of Illinois C. of Medicine.
Fujimaki, Samuel Yoshitomo, *s*, Yamanashi, Japan. S.B. '18.
Gamble, William Gourdin, *s*, Charleston, S.C. The C. of Charleston.
Garber, Henry Maurice, *a*, *sp*, Chicago. Lewis Inst.
Garcia, Antonio, *a*, *w*, *sp*, Ermita, Manila. A.B. (Ateneo de Manila) '12.
Garcia, Onofre, *s*, *a*, *w*, *sp*, Pilar Sarsogon, P.I. U. of St. Tomas.
Garfiel, Evelyn, *w*, New York City. A.B. (Columbia U.) '20.
Gibson, William Donald, *w*, Elk Valley, Tenn. U. of Tennessee; Senior C.
Ginsburg, Roderick Aldrich, *w*, Chicago. Senior C.
Goff, Charles Weer, *s*, Davenport, Iowa. U. of Illinois Medical S.
Goodhue, Anna Leon, *a*, *w*, *sp*, Chicago. South Dakota State C.; Senior C.
Gordon, Emma Viola (Foster), *a*, Lamanda Park, Cal. A.B. (U. of California) '20.
Gorelick, Eli Harry, *s*, Chicago. U. of Manitoba Medical S.
Grassel, Albert, *sp*, Butler. S.B. (Blackburn U.) '06.
Green, David Samuel, *s*, Dorchester, Mass. Tufts Medical S.
Greiner, Wallace Reginald, *sp*, Seattle, Wash. U. of Washington; Junior C.
Grichter, Benjamin Berl, *s*, Chicago. S.B. '16.
Griffith, Frederick Reece, Jr., *s*, St. Louis Mo. A.B. (Washington U.) '14; A.M. (*ibid.*) '14.
Grove, William Thomas, *w*, Eureka, Kan. M.D. (St. Louis U.) '93.
Gussin, Harry, *sp*, Detroit, Mich. U. of Michigan; Senior C.
Gutierrez, Dario, *s*, Bogota, Columbia, S.A. U. of Cincinnati Medical S.
Gutzmer, Ernest Wallor, *s*, Orangeville. A.B. (Wheaton C.) '20; Northwestern U. Medical School.
Hadley, Margaret Hannah, *s*, Winnetka. Northwestern U.

Hall, Earl Henry, *s*, Chicago. S.B. '19.
Hambrecht, Louise R., *sp*, Chicago. A.B. (U. of Wisconsin) '07.
Hammond, Edith Sawyer (Mrs.), *s*, Lawton, Okla. A.B. (U. of Oklahoma) '15.
Hansen, Clarence Alfred, *s*, Faribault, Minn. U. of Minnesota Medical S.
Harder, William Charles, *sp*, Chicago. Senior C.
Harper, Francis Donald, *w*, *sp*, Chicago. S.B. '20.
Havlick, Lucille, *a*, Denver, Colo. Senior C.
Head, Jerome Reed, *s*, Madison, Wis. A.B. (U. of Wisconsin) '14; A.M. (U. of Illinois) '15. U. of Wisconsin Medical S.
Hedgecock, Marcus Whitman, *s*, Plymouth. Northwestern U. Medical S.
Heitmeyer, Powis Lee, *s*, Portland, Ore. Oregon Agric. C.; Junior C.
Henderson, Pearl Inez, *a*, *sp*, Chicago. Ph.B. in Ed. '19.
Hendrickson, Mrs. Anna McNally, *s*, Cincinnati, Ohio. U. of Cincinnati C. of Medicine.
Hennell, Leo, *s*, Winnipeg, Manitoba, Can. U. of Manitoba Medical S.
Hersch, Orville Robert, *a*, Waterloo, Iowa. Coe C.; Senior C.
Heskett, Byford Franklin, *w*, *sp*, Chicago. Senior C.
Hevesh, Joseph, *s*, Chicago. A.M. (Columbia U.) '08; U. of Illinois.
Hicks, Ruth Mary, *sp*, Waterloo, Iowa. Junior C.
Hiss, John Martin, *s*, Columbus, Ohio. Ohio State U. Medical S.
Hoeppner, Walter Frederick, *sp*, Chicago Heights. Junior C.
Hogue, Harold Bertrand, *sp*, Chicago. Junior C.
Holmes, Willard Stanley, *s*, Saskatoon, Can. A.B. (Queen's U.) '15.
Horsley, John Shelton, *s*, Richmond, Va. Harvard Medical S.
Houston, Jack Maurice, *s*, Chicago. Northwestern U. Medical S.
Howard, Robert Lowe, *s*, Richmond, Va. A.B. (State U. of South Dakota) '17; S.M. (State U. of Iowa) '19.
Huene, Nevin, *w*, Chicago. U. of Southern California; Junior C.
Hunter, Charles Axtell, *s*, State College, Pa. S.B. (Kansas State Agricultural C.) '15; S.M. (U. of Wisconsin) '16.
Hupé, George Fred, *sp*, North Chicago. Senior C.
Hurwitz, Emanuel F., *sp*, Chicago. U. of Illinois; Senior C.
I, Pao-Chun, *s*, Haugebrow, China. Tsing-Hua C; Junior C.
Ignelzi, Louis Gerard, *s*, Pittsburgh, Pa. U. of Pittsburgh S. of Medicine.
Ingraham, Helen Margaret, *w*, La Harpe. S.B. (Knox C.) '18.
Ingrao, Sebastiano, *s*, Chicago. Loyola U. S. of Medicine.
Irwin, Prescott St. Clair, *s*, Shelburne, Nova Scotia. U. of Alberta Medical S.
Jackson, Vestus Twiggs, *s*, *a*, Sandersville, Ga. A.B. (Mercer U.) '12; S.M. (U. of C.) '16.
Jacobs, Edward B, *a*, *sp*, Lee J Delta, Colo. S.B. (Montana State C.) '16.
Johnson, Chester Arthur, *s*, Stuart, Neb. U. of Nebraska C. of Medicine.
Johnson, William Ewart Gladstone, *s*, Chicago. Loyola U. S. of Medicine.
Jones, Henry Leon, *s*, Chicago. Northwestern U. Medical S.
Kamins, Maclyn, *s*, Chicago. Loyola U. S. of Medicine.
Kaminsky, Abraham Max, *s*, Chicago. Northwestern U. Medical S.
Kantrovitch, Max Philip, *s*, Columbus, Ohio. Ohio State U. Medical S.
Kaplan, Edward, *s*, Everett, Mass. Tufts C. Medical S.
Kelly, Dana, *a*, Ogden, Utah. Senior C.

Kelsey, Stella, *a*, Richmond, Ind. Ph.B. in Ed. '19.
Kenyon, Allan Titsworth, *w*, Aurora. U. of Illinois; Senior C.
Kern, Keyne Ruth, *s*, Fort Collins, Colo. S.B. (Colorado State Agricultural C.) '16.
Kielar, Edward, *sp*, Nanticoke, Pa. Junior C.
King, Mrs. Paz Garcia, *s*, Manila, P.I. A.B. (U. of Philippines) '18; U. of Illinois C. of Medicine.
Kirschenbaum, Dora, *w*, Chicago. Senior C.
Kizer, David Thomas, *s*, *a*, Springfield, Mo. M.D. (Starling Medical S.) '08; A.B. (Wittenberg C.) '96; A.M. (*ibid.*) '06.
Klinkerfuss, George Henry, *s*, Clayton, Mo. U. of Missouri Medical S.
Kung, Hsien Wu, *sp*, China. Peking Union Medical C.
Lauer, Marvin Sigmund, *sp*, Des Moines, Iowa. Drake U.; Senior C.
Lavengood, Russell Wilson, *s*, Marion, Ind.
Leclerc, Ginette, *a*, *w*, Remy, France. Carnegie Tech.; Senior C.
Lederer, Arthur, *s*, Chicago. M.D. (U. of Illinois Medical S.) '08; D.P.H. (Harvard) '17.
Lee, George Kong Ai, *sp*, Honolulu, T.H. U. of Michigan; Senior C.
Leetoma, Esther En Moi, *a*, *w*, Honolulu, Hawaii. S.B. (Tufts C.) '19.
Lehman, Isidore Jesse, *s*, Columbia, Mo. U. of Missouri Medical C.
Leong, Ellen Fook-Len, *sp*, Honolulu, T.H. U. of Michigan; Junior C.
Levine, Israel, *sp*, Chicago. Senior C.
Levy, Morence, *s*, Jerusalem, Palestine. Jewish Teachers' Training C.; Senior C.
Lewerenz, Carl Thedore, *sp*, Chicago. Junior C.
Lien, Arthur Edward, *a*, *sp*, Black River Falls, Wis. Jefferson Medical C.
Lindstedt, Norman Arthur, *w*, *sp*, Rockford. Beloit C.; Senior C.
Lipp, Michael Joseph, *s*, Omaha, Neb. U. of Nebraska C. of Medicine.
Liu, Ju Chiang, *sp*, Peking, China. Oberlin C.; Senior C.
Livshis, Laura, *s*, *a*, Chicago. U. of Arizona; Senior C.
Loring, Mark Lucas, *w*, Valparaiso, Ind. U. of Michigan: Junior C.
Luetmer, Wendelin, *s*, Collegeville, Minn. A.M. (St. John's U.) '15.
Macasa, Demtrio Calozo, *a*, Kakankalan, P.I. A.B. (U. of Nebraska) '20; U. of Nebraska Medical S.
Machlis, Samuel Arthur, *s*, Madison, Wis. S.B. (U. of Wisconsin) '20; U. of Wisconsin Medical C.
MacPherson, Daniel Allan, *a*, Providence, R.I. Ph.B. (Brown U.) '20; S.M. (*ibid.*) '20.
Madison, Lewis Keith, *s*, Washington, D.C. Howard U.
Maghy, Charles Alford, *s*, Chicago. M.D. (U. of Illinois C. of Medicine) '05.
Magoon, Eva Waterman, *s*, Chicago. Ph.B. (Brown U.) '11.
Mahone, Lionel Atticus, *s*, Chicago. Northwestern U. Medical S.
Manalo, Antonio Buenaventura, *s*, Cabanatuan, N.E., Philippines. Senior C.
Manning, Rodger James, *s*, Saskatoon, Sask., Can. A.B. (U. of Toronto) '06; A.M. (U. of Toronto) '07.
Mason, Michael Livingood, *s*, Danville. S.B. (Northwestern U.) '16; A.B. (Northwestern U.) '17.
Matthis, Paul Givens, *sp*, Jefferson, Iowa. Prairie View State Normal and Industrial S.; Junior C.

Mayer, Jacob Da Costa, *sp*, Chicago. Lewis Inst.; Junior C.
McClellan, Oral Strode, *s*, *a*, Chicago. Senior C.
McCracken, Robert Franklin, *s*, Richmond, Va. S.B. (Military C. of South Carolina) '03; A.M. (Columbia U.) '10.
McKeighan, Pauline Lyon, *w*, *sp*, Toulon. S.B. '20.
McLoon, Mary Anne, *s*, Pevely, Mo. A.B. (U. of Missouri) '15; U. of Minnesota Medical S.
McMillan, William Marcus, *sp*, Colville, Wash. U. of Washington; Junior C.
McNair, George Thomas, *s*, Cedar Rapids, Iowa. S.B. (Coe C.) '16.
Means, Karl Stone, *w*, *sp*, Morristown, Ind. A.B. (Butler C.) '14; A.M. (Indiana U.) '15.
Miller, Newton, *s*, Salt Lake City, Utah. U. of Utah Medical S. A.B. (U. of Indiana) '05; Ph.D. (Clark U.) '08.
Mladick, Anthony Edward, *w*, *sp*, Algonquin. Junior C.
Monsigian, Mardiros, Der Hovhanes, *a*, Van, Armenia. S.B. (Columbia U.) '17.; S.M. (*ibid*) '19.
Moore, Andrew, *s*, Winnipeg, Manitoba, Can. U. of Manitoba.
More, Roland, *a*, Chicago. Junior C.
Moorehead, Matthew Talmage, *s*, West Lafayette, Ohio. A.B. (Ohio Wesleyan U.) '17. Western Reserve S. of Medicine.
Morris, Ruth M., *s*, Chicago. A.B. (Wellesley C.) '19; Cornell Medical C.
Motyca, Lawrence John, *s*, Dolgeville, N.Y. S.B. (Cornell U.) '14.
Mrazek, Vernon Elmer Leo, *s*, *a*, Chicago. Senior C.
Neff, Andrew McNally, *w*, Altadena, Cal. A.B. (U. of California) '20.
Nemerofsky, Jacob, *s*, Chicago. U. of Illinois C. of Medicine.
Neuhauser, Irene Anna, *w*, Gridley. Bradley Polytechnic Inst; Senior C.
Nickel, Allan Clarence, *s*, Milwaukee, Wis. U. of Wisconsin Medical S.
Norris, Reginald Michael, *sp*, Rock Valley, Iowa. State U. of Iowa; Senior C.
Nyi, Vong-Sund, *a*, Hangchow, China. M.D (Women's Medical C.) '16.
Oates, Charles Everett, *s*, Little Rock, Ark. A.B. (U. of Arkansas) '06; S.M. (U. of Chicago) '16.
Pan, Fu-Yin, *s*, *a*, Honan, China. Peking Union Medical C.
Papa, Joseph Michael Anthony, *s*, Chicago. Ph.B. '18.
Pappenhagen, Albert Burnell, *s*, Meadville, Pa. S.B. (Allegheny C.) '17.
Pascual, Antonio Manuel, *s*, *w*, La Paz, Tarlac, P.I. U. of Philippines.
Peet, Charles Emerson, *s*, Chicago. S.B. (U. of Wisconsin) '92.
Peet, Julia Dumke, *s*, Chicago. Ph.B. '98.
Pekny, Matilda Antoinette, *sp*, Cary Station. Northern Illinois State Normal S.; Senior C.
Pelc, Joseph Jerry, *a*, Cicero. S.B. '20.
Perez, Jose Reyes, *s*, *a*, Philippine Islands. A.B. (Southwestern C.) '19.
Peska, Casimir Alexander, *s*, Chicago. Loyola U. S. of Medicine.
Pfannebecker, Malcolm, *w*, Sigourney, Iowa. State U. of Iowa; Senior C.
Phillips, Kenneth, *sp*, Ogden, Utah. Oregon Agricultural C.; Junior C.
Plaut, Clarence Theodore, *sp*, Chicago. Junior C.
Potter, Truman Squire, *sp*, Chicago. Senior C.
Potts, Florence Almeda, *sp*, Edmonton, Alberta, Can. Toronto U.; Senior C.
Pusstelnik, Meyer, *sp*, Chicago. Junior C.

Quick, Carl Jackson, *sp*, Rich Valley, Ind. Valparaiso U.; Junior C.
Randel, Henry Andreas, *sp*, Chicago. Junior C.
Rastello, Peter B., *w*, Hancock, Mich. Northern State Normal S.; Junior C.
Reich, Adolphe Benjamin, *sp*, Chicago. Junior C.
Reinsh, Ernest Robert, *s*, Omaha, Neb. U. of Nebraska Medical S.
Reynolds, Walton Walker, *s*, Chicago. Tulane U.
Rhett, William P., *s*, Charleston, S.C. Charleston C.
Rinkel, Herbert John, *sp*, Haviland, Kans. Bethany C.; Senior C.
Roberts, Ralph Smith, *s*, Keosanqua, Iowa. Tulane U. C. of Medicine, A.B. (Leland Stanford Junior U.) '16; A.M. (U. of California) '17.
Robins, Rufus Benjamin, Jr., *s*, Ozan, Ark. Washington U.
Robinson, Gilbert Phillips, *sp*, Spokane, Wash. State C. of Washington; Junior C.
Rodriquez, Florencio Labrado, *sp*, Carear, Cebu, P.I. Philippine U.; Senior C.
Rustia, Constancio, *sp*, Balimag, Bulacan, P.I. U. of Philippines; Senior C.
Rutz, Lawrence Magnus, *s*, Detroit, Mich. U. of Michigan Medical S.
Ryan, Roger William, *s*, *a*, Auburn, Wash. S.B. (U. of Washington) '16.
Sacks, Jacob, *sp*, Chicago. Lewis Inst.; Junior C.
Sandin, Reuben Benjamin, *s*, Chicago. A.B. (U. of Alberta) '16.
Scott, Anna Louise, *s*, Lansing, Mich. Ph.B. '13.
Shannon, Charles Edward, *sp*, Chicago. Junior C.
Shefkowitz, Herman David, *sp*, New York City. Columbia U.; Senior C.
Sheppard, Hubert, *s*, Chicago. A.B. (U. of Oklahoma) '17; A.M. (*ibid.*) '17.
Shields, Alfred Joseph Nelson, *sp*, Brooklyn, N.Y. Lewis Inst.; Senior C.
Simkin, Maurice, *sp*, Chicago. Lewis Inst.; Senior C.
Singer, Charlotte H., *a*, Chicago.
Smith, Mrs. Bertha Albertina, *s*, *a*, Chicago. State Normal S.; Senior C.
Smith, James Hollingsworth Clemmert, *s*, *a*, Gary, Ind. A.B. (Monmouth C.) '17; S.M. (U. of C.) '20.
Smith, Theodore Jonathon, *sp*, Tomah, Wis. U. of Wisconsin; Senior C.
Smith, Victoria Venable, *s*, Lynchburg, Va. A.B. (Randolph-Macon Woman's C.) '15.
Sodaro, Joseph Clarence, *s*, Aurora. U. of Illinois Medical S.
Solar, Benjamin Allen, *s*, Chicago.
Spieth, George Edward, *s*, Defiance, Ohio. A.B. (Defiance C.) '11; S.M. (U. of C.) '18.
Stavely, Frederick Walter, *w*, *sp*, Lyndon, Kan. A.B. (Cooper C.) '16.
Stein, Elick, *s*, Chicago. U. of Cincinnati C. of Medicine.
Steuben, Stephen, *s*, Chicago. Hahnemann Medical C.
Stewart, Nell Elizabeth, *s*, Pueblo, Colo. S.B. in Ed. '15.
Stuart, Carroll W., *s*, Traer, Iowa. U. of Illinois Dental Department.
Stutsman, Rachael, *sp*, Detroit, Mich. A.B. (U. of Missouri) '19.
Sudan, Archie Chester, *sp*, Konigsfisher, Okla. Senior C.
Sugar, Sol Asher, *s*, Chicago. Crane Junior C.; Junior C.
Summers, Frances Rosalie, *sp*, Peoria. Junior C.
Swiren, Esther Kate, *sp*, Chicago. Senior C.
Swoboda, Friedrich Karl, *sp*, Chicago. S.B. '18.
Tang, Ning-Kang, *sp*, Shanghai, China. A.B. (Shanghai Baptist C.) '18.

Taugher, Cyril John, *w*, Chicago. Am. C. of Pathology and Bacteriology.
Testin, Thomas Joseph, *s*, Joliet. Senior C.
Theodoroff, George P., *s*, Chicago. Loyola U. S. of Medicine.
Thomas, Riley Fisher, *sp*, Port Gibson, Miss. Meharry Medical C.; Junior C.
Tsiang, Kuen, *w*, Kinchira City, China. Hangchow Medical C.; Senior C.
Tufo, Gustave Frances, *sp*, Chicago. Junior C.
Tufts, Engebret T., *s*, Northwood, N.D. A.B. (St. Olaf C.) '09; A.M. (U. of North Dakota) '11.
Tulupan, Ansel, *s*, Chicago. Senior C.
Turner, Granville Vernon, *s*, Crocketsville, Ky. U. of Louisville Medical S.
Van Hoose, Harold, *s*, *sp*, Cincinnati, Ohio. U. of Cincinnati Medical S.
Vermooten, Vincent Davis, *s*, Belfast, Transvaal, S. Africa. A.B. (U. of Cape Town) '18; A.M. (*ibid.*) '19.
Vincent, Helen Ruth, *sp*, Berwyn. Senior C.
Wakerlin, George Earle, *sp*, Chicago. Junior C.
Wang, Yung Kuang, *s*, *a*, *w*, *sp*, Shantung, China. Peking Union Medical C.
Warner, Sophia Emma Alice, *s*, Haigler, Neb. U. of Nebraska Medical S.
Weber, Ione Ethel, *s*, Oshkosh, Wis. State Normal S.; Senior C.
Wells, James Ralph, *a*, Pittsburg, Kan. S.B. in Ed. (Kansas State Manual Training S.) '19.
Westenberger, Lorenz Henry, *sp*, St. Ansgar, Iowa. Senior C.
White, Ernest Harl, *s*, North Little Rock, Ark. A.B. (Clark C.) '11; S.M. (U. of C.) '15.
White, James Maurice, *a*, Chicago. State Normal S.; Senior C.
White, Mary Agnes, *sp*, Chicago. Marquette C.; U. of Illinois Medical S.
Wiginton, Marquis Claude, *s*, Rara Avis, Miss. U. of Mississippi Medical C.
Wilke, Carl, *s*, Blue Island. U. of Illinois C. of Medicine.
Willd, John Arthur, *s*, Chicago. Hoffman, Minn.
Williams, Anton, *s*, Siloam Springs, Ark. A.B. (U. of Kansas) '19; U. of Kansas S. of Medicine.
Winkler, Harry, *a*, New Philadelphia, Ohio. Senior C.
Winston, Woody Maurice, *w*, *sp*, Chicago. A.B. (Fisk U.) '20.
Woizeske, Ray Andrew, *sp*, Peoria. Bradley Polytechnic Inst. Senior C.
Wolf, Alexander, *sp*, Chicago. Senior C.
Wright, Patrick, *sp*, Chicago. Lawrence C. State U. of Iowa.
Zimmerman, Naomi B., *s*, Winfield, Iowa. S.B. (U. of Nebraska) '19.
Zwick, George Holliday, *s*, *a*, *w*, *sp*, Cincinnati, Ohio. A.B. (U. of Cincinnati) '18; U. of Cincinnati C. of Medicine.

MEN—217 WOMEN—54 TOTAL—271

JUNIORS

Allen, James Ulysses, *sp*, Chicago. S.B. (Howard U.) '14; S.B. '20.
Apfelbach, Carl Wesley, *s*, Chicago. Junior C.
Bacon, Vinton Arthur, *a*, *w*, *sp*, Chicago. S.B. '19.
Baldwin, Orville Lee, *s*, *a*, Cridersville, Ohio. Senior C.
Bates, Austin David, *a*, Scottville, Mich. S.B. '16.
Bay, Emmet Blackburn, *a*, *w*, *sp*, Chicago. S.B. '20.

Becker, Murla Algeo, *s*, Columbia, Mo. S.B. (U. of Missouri) '15.
Biggs, Alfred DeBard, *a*, *w*, Greenup, Ky. A.B. (Maryville C.) '15.
Bodmer, Stella Nason, *sp*, La Grande, Ore. S.B. '20.
Bowman, Robert James, *a*, *w*, *sp*, Upper Sandusky, Ohio. S.B. (Ohio State U.) '20.
Boyd, Elmer Louis, *sp*, Norris City. S.B. '21.
Buckingham, Tracy Willis, *a*, *w*, *sp*, Gull Lake, Sask., Can. A.B. (U. of North Dakota) '20.
Burling, Fred Temple, *a*, *w*, Des Moines, Iowa. S.B. '20.
Butterman, Albert, *s*, Chicago. S.B. '20.
Cameron, Don Bruce, *s*, *a*, White Pigeon, Mich. S.B. '17.
Campbell, Orwood Jackson, *a*, *w*, *sp*, Peoria. S.B. '20.
Castaing, Pedro Alvaro, *a*, *w*, *sp*, Ponce, P.R. Senior C.
Chinn, Walter Seong, *sp*, Honolulu, T.H. S.B. '21.
Clarke, Elton Russell, *a*, *w*, *sp*, Franklin, Ind. A.B. (Butler C.) '15.
Clauser, Clarence Francis, *sp*, Bridgewater, S.D. S.B. '21.
Clowes, Leo Clifford, *a*, *w*, *sp*, Centralia. A.B. (Illinois C.) '12.
Cochems, Kenneth, *a*, *w*, *sp*, Anthony, Idaho. S.B. (U. of Wisconsin) '20.
Cole, Arthur Vincent, *a*, *w*, *sp*, Mauston, Wis. A.B. (U. of Wisconsin) '19; M.A. (U. of Wisconsin) '20.
Collett, George Arthur, *s*, Ottawa, Kan. S.B. (Ottawa U.) '13.
Colwell, Arthur Ralph, *s*, *a*, Chicago. Lane Junior C. S.B. '19.
Conroy, Francis Robert, *s*, *a*, Ogden, Utah. S.B. '20.
Coon, George Wayland, *a*, *w*, *sp*, Milton Junction, Wis. S.B. (U. of Wisconsin) '20.
Crooks, Toney Taylor, *a*, *w*, *sp*, Fredonia, Kan. A.B. (U. of Idaho) '09; A.B. (U. of Oxford, England) '13.
Cryst, James Henry, *a*, *w*, *sp*, East Ely, Nev. Senior C.
Dahle, Artman Hovey, *a*, *w*, *sp*, Madison, Wis. S.B. (U. of Wisconsin) '20.
Davis, Morris Edward, *a*, *w*, *sp*, Chicago. S.B. '20.
Dawson, William Artis, *a*, *w*, *sp*, Dalhart, Tex. S.B. '20.
De Groot, Albert, *s*, *a*, Chicago. S.B. '19.
De la Garza, Raul, *a*, *w*, *sp*, Laredo, Tex.
Dock, William, *a*, *w*, *sp*, St. Louis, Mo. S.B. (Washington U.) '20.
Eitzen, Abraham Clement, *a*, *w*, *sp*, Hillsboro, Kan. A.B. (U. of Kansas) '18.
Fanson, Anna Ethel, *s*, Assumption. A.B. (Maryville C.) '13.
Finsky, Morris E., *a*, *w*, *sp*, Lake Geneva, Wis. A.B. (U. of Wisconsin) '20.
Fletcher, Louis R., *a*, *w*, *sp*, Scott City, Kan. A.B. (U. of Kansas) '19.
Fox, Lloyd Hamilton, *a*, *w*, *sp*, Suerry, N.D. A.B. (U. of North Dakota) '17; S.B. '20.
Fox, Noah, *sp*, Chicago. S.B. '20.
Gibson, Carl Chesney, *a*, *w*, Chicago. S.B. (Denison U.) '11; A.M. (Columbia U.) '13.
Giles, Frances Ethel, *a*, *w*, *sp*, Walnut, Miss. A.B. (U. of Mississippi) '20.
Goodwin, Joshua Samuel, *a*, Chicago. S.B. '19.
Greene, Earle Ira, *a*, *w*, *sp*, Chicago. S.B. '20.
Grey, Dorothy, *a*, *w*, *sp*, Evanston. S.B. '14.
Grinker, Roy R., *s*, *a*, Chicago. Senior C.

Hallmann, Alfred Herman, *s, a,* Chicago. S.B. '20.
Hamilton, Gerald Watson, *sp,* Church Hill, Tenn. S.B. '21.
Hanson, Millard Charles, *a, w, sp,* Howard, S.D. A.B. (U. of South Dakota) '20.
Hantsch, Ferdinand, *a, w, sp,* Chicago. S.B. '20.
Harris, Ralph Lee, *a, w, sp,* Dumont, Iowa. S.B. '18.
Harrison, Jeanette, *a, w, sp,* Morrison. S.B. (U. of Wisconsin) '20.
Hartman, William Walter, *a, w, sp,* Chicago. S.B. '20.
Hays, Victor Josiah, *sp,* Chicago. A.B. (Morningside C.) '11; Ph.D. (U. of Iowa) '14.
Heatherington, Jean Robert, *a, w, sp,* Bellaire, Ohio. S.B. '19.
Heitman, Marjorie McCray, *a, w, sp,* Wallace, Idaho. A.B. (Mills C.) '18.
Henn, Samuel Chester, *s, a,* Paonia, Colo. A.B. (Colorado C.) '17; M.S. '19.
Hertzfield, Morris Wolf, *a, w, sp,* Chicago. S.B. '18.
Hiss, Karl Louis, *sp,* Toledo, Ohio. S.B. '21.
Hittner, Vernon James, *a, w, sp,* Seymour, Wis. S.B. (U. of Wisconsin) '20.
Hooval, John Harold, *a, w, sp,* LaCrosse, Wis. S.B. '20.
Howard, Margaret, *a, w, sp,* Portland, Ore.
Huber, Herman Harry, *a, w, sp,* Chicago. S.B. (U. of Wisconsin) '20.
Hunt, Guy Anderson, *sp,* Portage, Mont. S.B. '19.
Hyden, Anton, *a, w, sp,* Alcester, S.D. A.B. (U. of South Dakota) '19.
Inlow, Herbert Haehl, *a, w, sp,* Manilla, Ind. S.B. '20.
Isaac, Arnold Gerhard, *s, a, w,* Moundridge, Kan. A.B. (Bethel C.) '16.
Jacques, Lawrence, *a, w, sp,* Chicago. S.B. '19.
Johnson, Carl Gilbert, *a, w,* Marshalltown, Iowa. S.B. '20.
Johnson, Clarence Emery, *a, w, sp,* Marshalltown, Iowa. (U. of Iowa).
Johnson, Donald Warner, *a, w, sp,* Fairmont, Minn. S.B. '21.
Johnson, Harold Edward, *a, sp,* Waterloo, Iowa.
Jones, Scott S., *a, w, sp,* Marshalltown, Iowa. S.B. '20.
Kaffesieder, Lewis I., *a, w, sp,* Gary, Ind. S.B. '20.
Kato, Katsuji, *sp,* Osaka, Japan. A.B. (Kalamazoo C.) '09; A.M. '10; D.B. '11; Ph.D. '13.
Kaufman, Irving Edmond, *s,* Chicago. S.B. '19.
Kneussl, Maximilian Bernard, *a, w, sp,* Ottawa. Senior C.
Krauss, Thomas Frederick, *s, a,* Jonesboro. S.B. '19.
Lambird, Clifford David, *a, w, sp,* Newton. S.B. '20.
Lampe, Ernest William, *a, w, sp,* Eveleth, Minn.
Larkin, William James, *s,* Whitewater, Wis. S.B. (U. of Wisconsin) '19.
Larkowski, Tadeusz Maryan, *a, w, sp,* Chicago. S.B. '20.
Larson, Ernest Oliver, *a, w, sp,* Chicago. S.B. '20.
Lawrence, John Vincent, *s, a, w, sp,* Chicago. S.B. '17.
Lederer, Francis Loeffler, *s, a,* Chicago. S.B. '19.
Leiter, Louis, *s, a,* Chicago. S.B. '19; M.S. '20.
Lepke, Joseph Elmer, *w, sp,* Anaconda, Mont. S.B. '19.
Lev, Morris William, *a, w, sp,* Chicago. S.B. '20.
Lewis, George Cecil, *a, w, sp,* Chicago. S.B. '19.
Lindbeck, C. Otto E., *a, w, sp,* Jamestown, N.Y. S.B. (Syracuse U.) '20.
Lindenbaum, Joseph Moses, *a, w, sp,* Chicago. S.B. '20.
Long, Esmond Ray, *sp,* Chicago. A.B. '11; Ph.D., '13.

Luban, Simon W., *a, w, sp,* Madison, Wis. S.B. (U. of Wisconsin) '20.
Lundvick, Cyril Vincent, *a, w, sp,* Gowrie, Iowa. S.B. '19.
MacNaughton, Leslie, *s,* Argyle, N.Y. S.B. (U. of Wisconsin) '15.
McClanahan, Esther, *s, a,* Columbus, Miss. S.B. (Mississippi State Woman's C.) '16.
McCarthy, Earl Roach, *s, a,* Spokane, Wash. S.B. '19.
McConnell, Lucille May, *a, w, sp,* Sutherland, Neb. S.B. (U. of Nebraska) '20.
McLoone, James Egan, *a, w, sp,* Chicago. S.B. '20.
McNeal, Alice, *s,* Hinsdale. S.B. '18.
Maddux, Walter Henry, *a, w, sp,* Kansas City, Kan. A.B. (U. of Kansas) '14.
Mahon, Ruth, *a, w, sp,* Langdon, N.D. A.B. (U. of North Dakota) '20.
Maurer, Siegfried, *a, w, sp,* Eugene, Ore. S.B. (Oregon Agricultural C.) '10.
Mead, Myrogene, *sp,* Berthoud, Colo. S.B. '16.
Meyer, Harold Irving, *a, w, sp,* Kankakee, A.B. '19; S.B. '20 (U. of Illinois).
Meyer, William Herman, *a, w, sp,* Forreston. S.B. '19.
Meyers, Solomon George, *a, w, sp,* Detroit, Mich. S.B. (U. of Michigan) '20.
Milam, Daniel Franklin, *sp,* Jacksonville,Fla. A.B. (Vanderbilt U.) '16.
Miller, Clara, *a, w, sp,* Chicago. Ph.B. '06.
Montague, John Richard, *a, w, sp,* Portland, Ore. A.B. (U. of Oregon) '18,
Moore, Oliver Merritt, *a, w, sp,* Bottineau, N.D. A.B. (U. of North Dakota) '20.
Morris, Francis Joseph, *a, w, sp,* Manitowoc, Wis. S.B. (U. of Wisconsin) '20.
Mulliken, Oscar Dale, *a, w, sp,* Humbolt. S.B. '20.
Muyskens, John P., *a, w, sp,* Alton, Iowa. A.B. (Hope C.) '18.
Nadelhoffer, Luella, *sp,* Downers Grove. S.B. '21.
Nelson, Esther Serida, *a, w, sp,* Manhattan, Kan. S.B. (Kansas State Agricultural C.) '15.
Newcomb, Frank Simon, *a, w, sp,* Chicago. S.B. '19.
Newman, Emanuel, *a, w, sp,* Richmond, Va. S.B. (Richmond C.) '19.
Nickel, Allen Arthur Clarence, *sp,* Milwaukee, Wis. S.B. (Northwestern C.) '15.
Nienhuis, John Edward, *a, w, sp,* Oak Park. A.B. (Hope C.) '18.
Olmsted, Harry Carson, *s,* Spokane, Wash. S.B. '19.
Overton, Orrin Van, *a, w, sp,* Sycamore. S.B. (U. of Wisconsin) '20.
Pease, Charles Nelson, *a, sp,* Chicago. S.B. '19.
Pederson, Harold Theodore, *a, w, sp,* Grand Forks, N.D. A.B. (U. of North Dakota) '20.
Perry, Ethel Belle, *a, w, sp,* Belfast, N.Y. A.B. (Mount Holyoke C.) '11.
Piper, Charles Henderson, *a, w, sp,* Chicago. S.B. '20.
Quisling, Sverre, *a, w, sp,* Madison, Wis. S.B. (U. of Wisconsin) '20.
Rainey, Clarence Wager, *sp,* Pueblo, Colo. S.B. '17.
Raphael, Isador Jacob, *a, w, sp,* Evansville, Ind. S.B. (Indiana U.) '20.
Rider, Dean Loller, *a, w, sp,* Bushnell. S.B. '20.
Roberts, Rob Roy, *a, w, sp,* Fort Atkinson, Wis. (U. of Wisconsin).
Sandie, Joseph, *sp,* South Moorhead, Minn. A.B. (Fargo C.) '19.
Schaller, Clarence Henry, *a,* Mendota, S.B. '20.
Schwartz, J. Gilbert, *a, w, sp,* Pipestone, Minn. A.B. (U. of South Dakota) '20.
Scott, Philip, Albright, *a, w, sp,* Emmetsburg, Iowa. S.B. '20.
Shanberg, Abraham Howard, *a, w, sp,* Chicago. S.B. '20.

Sheaff, Howard Martin, *s*, *a*, Hastings, Neb. A.B. (U. of Nebraska) '10; Ph.D. '19.
Smuckler, Robert Henry, *a*, *w*, *sp*, Milwaukee, Wis. S.B. (U. of Wisconsin) '20.
Sperl, Joseph Tours, *a*, *w*, *sp*, Pomona, Cal. A.B. (Pomona C.) '16.
Staples, Harry Albert, *a*, *w*, *sp*, Princeton. S.B. '20.
Stappenbeck, Paul, *s*, *a*, Manhattan. S.B. '19.
Stark, Morris, *a*, *w*, *sp*, Toledo, Ohio. (U. of Michigan).
Starr, Merritt Paul, *s*, Winnetka. A.B. (Harvard U.) '16.
Stern, William *a*, *w*, Kenosha, Wis. S.B. (U. of Wisconsin) '20.
Sugden, John W., *a*, *w*, *sp*, Salt Lake City, Utah. A.B. (U. of Utah) '18; M.A. (*ibid.*) '20.
Sullivan, Andrew Joseph, *sp*, Chicago. S.B. '20.
Sweany, Henry Claris, *s*, *a*, Eugene, Ore.
Tierney, Edward Frederick, *a*, *w*, Portage, Wis. S.B. (U. of Wisconsin) '20.
Tilleman, John Francis, *a*, *w*, *sp*, Madison, Wis. S.B. (U. of Wisconsin) '19.
Tobias, Milton, *a*, *w*, *sp*, Chicago. Senior C.
Treadwell, Richard Talmage, *a*, *w*, *sp*, Lufkin, Tex. S.B. (U. of Texas) '20.
Val Dez, Frank Carl, *a*, San Angelo, Tex. S.B. '19.
Van Dyke, Harry B., Des Moines, Iowa. S.B. '18.
Van Tuyl, Ralph Thomas, *a*, *w*, *sp*, Sioux Falls, S.D. A.B. (U. of South Dakota) '20.
Wallace, Hawthorn Collins, *s*, *a*, Bellefontaine, Ohio. A.B. (Muskingum C.) '14.
Walsh, Thomas Gervase, *a*, *w*, *sp*, Chicago. A.B. (St. Ignatius C.) '18.
Watkins, Richard Watkin, *s*, Granville, Ohio. S.B. (Denison U.) '13.
Watson, Allen Smith, *a*, *w*, *sp*, Madison, Wis. S.B. (U. of Wisconsin) '19.
Welch, Albert Summerfield, *a*, *w*, *sp*, Kansas City, Mo. S.B. '19.
Werba, Daniel Richard, *a*, *w*, *sp*, Milwaukee, Wis.
Whitney, Homer H., *sp*, Fonda, Iowa. S.B. '21.
Wiedemer, Lottie, *sp*, Norwood, Ohio. A.B. (U. of Cincinnati) '13.
Wilhelmi, Lawrence John, *sp*, Joliet. S.B. (Knox C.) '17.
Wilson, Myrta Mae, *a*, *w*, *sp*, West Alexandria, Ohio. S.B. (Ohio Wesleyan U.)
Wolf, Elizabeth Pauline, *a*, *w*, Indianapolis, Ind. S.B. '18.
Zaus, Earl, *a*, *w*, Youngstown, Ohio. S.B. '19.
Zimmerman, Leo M., *a*, *w*, *sp*, Indiana Harbor, Ind. A.B. (U. of Indiana) '19.

MEN—149 WOMEN—19 TOTAL—168

SENIORS

Ames, Florence Dorothea, *a*, *w*, *sp*, Fargo, N.D. A.B. (Fargo C.) '16.
Anthony, Stephen Pautelis, *s*, *a*, *w*, Chicago. Technische Hochschule, Munich, Germany, '05.
Apfelbach, Carl Wesley, *a*, *w*, *sp*, Chicago. Junior C.
Axley, Harold, *s*, *a*, *w*, *sp*, Cleveland, Wis. S.B. (U. of Wisconsin) '17.
Baken, Melvin Palmer, *s*, *a*, Hayfield, Minn. A.B. (St. Olaf C.) '17.
Baker, Robert V., *s*, *a*, Portland, Ore.
Baldwin, Orville Lee, *w*, *sp*, Cridersville, Ohio. Senior C.
Bargen, Jacob Arnold, *a*, *w*, Mountain Lake, Minn. S.B. '18.

Bates, Austin David, *w, sp*, Scottville, Mich. S.B. '16.
Bauer, Carl Philip, *s. a, w*, Mandan, N.D.
Becker, Harry Fred, *s, a, w*, Chicago. S.B. '19.
Bell, Margaret, *sp*, Chicago. S.B. '18.
Best, Gorden Newall, *a, w*, Watertown, S.D. A.B. (Carleton C.) '17.
Biggs, Alfred De Bard, *sp*, Greenup, Ky. A.B. (Maryville C.) '15.
Black, Gardner, *s, a, sp*, Pasadena, Cal. S.B. '18.
Blaisdell, Paul Carrier, *s*, Claremont, Cal. A.B. (Pomona C.) '16.
Blum, David Mitchell, *s, a, w*, Des Moines, Iowa. S.B. (U. of Illinois) '19.
Borsack, Karl Kasper, *s, a, w*, Fond du Lac, Wis. A.B. (U. of Wisconsin) '11.
Brandes, Leo, *s, a, w*, Chicago. S.B. '18.
Brockway, Alvia, *s, a, w*, Reno, Nev. S.B. '19.
Brown, Ernest James, *s, a, w*, Madison, Wis. S.B. (U. of Wisconsin) '19.
Brown, Susan Willard, *s, a, w*, Midville, Ga. A.B. (Missouri U.) 18.
Brown, William Jennings, *s, a, w*, Littleton, N.H. A.B. (Dartmouth C.) '19.
Bruff, William Cartland, *s, a, w*, Atlantic, Iowa. S.B. '18.
Brush, Clifford Herbert, *s, a, w*, Pipestone, Minn.
Buchbinder, William Charles, *s, a, w*, Chicago. S.B. '19.
Burdick, Allison Lovelle, *s, a, w*, Milton, Wis. A.B. (Milton C.) '16.
Burns, Dean Carl, *a, w, sp*, Petoskey, Mich. S.B. '19.
Butterman, Albert, *a, w, sp*, Chicago. S.B. '20.
Callis, Henry Arthur, *s, a, w*, Chicago. A.B. (Cornell U.) '09.
Cameron, Don Bruce, *w, sp*, White Pigeon, Mich. S.B. '17.
Carlson, Guy Walter, *s, a, w*, Trojan, S.D. A.B. (U. of South Dakota) '19.
Chesley, Faris Franklin, *s, a, w*, Armour, S.D. S.B. (U. of Nebraska) '19.
Collett, George Arthur, *a, w, sp*, Ottawa, Kan. S.B. (Ottawa U.) '13.
Colwell, Arthur Ralph, *w, sp*, Chicago. Lane Junior C. S.B. '19.
Conroy, Francis Robert, *w, sp*, Ogden, Utah. S.B. '20.
Curry, James Francis, *s, a*, Topeka, Kan. A.B. (Washburn C.) '17.
Curry, Lewis Allison, *a, w, sp*, Dunavant, Kan. A.B. (Kansas U.) '16; A.M. (*ibid.*) '17.
Curtis, George Morris, *s*, Nashville, Tenn. A.B. '10; A.M. '10; Ph.D. (U. of Michigan) '14.
Dabbs, Howard Burtnell, *s, a, w, sp*, Fort Worth, Tex. A.B. '10; A.M. (Texas Christian U.) '11.
de Bere, Clement Joseph, *s, a, w*, Chicago. Ph.B. (C. of Brussels, Belgium).
De Groot, Albert, *w, sp*, Chicago. S.B. '19.
Dragstedt, Carl Albert, *s, a, w*, Anaconda, Mont. S.B.; S.M.
Dragstedt, Lester Reynold, *s, a, w*, Anaconda, Mont. S.B.; S.M. Ph.D.
Driver, Camilles Ogden, *s, a, w*, Racine, Wis. S.B. (U. of Wisconsin) '19.
Ellis, Garland Ward, *a, w, sp*, Colton, S.D. A.B. (U. of South Dakota) '17.
Ellis, Harold Oliver, *s, a, w, sp*, Sioux City, Iowa. S.B. '19.
Ericksen, Oscar Charles John, *s, a*, Sioux Falls, S.D. S.B. '19.
Faus, Robert Bert, *s, a, w*, Boulder, Colo.
Field, Marshall William, *s, a, w, sp*, Peoria. S.B. '19.
Fink, Harry William, *s, a*, Chicago. S.B. '18.
Fogelson, Samuel Julian, *s, a, w*, Chicago. S.B. '19.
Fowler, Harry Lester, *s, a*, A.B. (Morningside C.) '16; Ph.G. (Babcock Inst. of Pharmacy) '12; M.S. (Jefferson Medical C.) '18.

French, Harry Tapley, *s, a, w,* Hanover, N.H. S.B. '13; M.S. (Dartmouth C.) '18
Garner, Jay McKinley, *a,* Witchita, Kan. S.B. '16.
Garrison, Lester Edward, *s, a, sp,* Chicago. S.B. '19.
Gaston, John Zell, *s,* Houston, Tex. S.B. '19.
Gibson, Carl Chesney, *sp,* Chicago. S.B. (Denison U.) '11; A.M. (Columbia U.) '13.
Goodwin, Joshua Samuel, *w, sp,* Chicago. S.B. '19.
Gough, James Arthur, *s, a, w,* Sugar Bush, Wis. S.B. (U. of Wisconsin) '19.
Graber, Benjamin Peter, *s, a,* Freeman, S.D. S.B. '18.
Greig, William McKean, *s, a, w,* Sterling, Colo. A.B. (U. of Colorado) '18.
Grey, Anna Barbara, *s,* Evanston. S.B. '17.
Griffith, Byron Sumner, *s, a, w, sp,* Ames, Iowa. S.B. '19.
Grinker, Roy R., *w, sp,* Chicago. Senior C.
Grossman, Harry Dewey, *s, a, w,* Chicago. S.B. '19.
Hagens, Elmer William, *s, a, w,* Chicago. S.B. '19.
Hallmann, Alfred Herman, *w, sp,* Chicago. S.B. '20.
Harrington, Raymond James, *s, a, w,* Sioux City, Iowa. A.B. (Morningside C.) '17.
Harris, Joseph Morris, *s, a, w,* Los Angeles, Cal. S.B. '19.
Hatleberg, Clarence Nels Bugge, *s, a, w,* Madison, Wis. S.B. (U. of Wisconsin) '19.
Hawes, Ralph Edward, *s, a, w,* Wakefield, Kan. A.B. (U. of Kansas) '18.
Henn, Samuel Chester, *w, sp,* Paonia, Colo. A.B. (Colorado U.) '17; M.S. '19.
Householder, Raymond, *s, a, w,* Bloomington. S.B. '19.
Howell, James Albert, *s,* Grant City, Mo. A.B. (U. of Missouri) '18.
Hoyer, George Henry Christian, *a, w, sp,* West Bend, Wis. A.B. (U. of Wisconsin) '20.
Hoyt, Lee Turner, *s,* Monmouth. S.B. '19.
Huckleberry, Evermont Robbins, *s, a, w,* Chicago. S.B. '18.
Inlow, Charles Frederic, *a, w, sp,* Manilla, Ind. S.B. '19.
Isaac, Arnold Gerhard, *sp,* Moundridge, Kan. A.B. (Bethel C.) '16.
Ivy, Andrew Conway, *s, a, w,* Chicago. M.S. '17; Ph.D. '18; S.B. '16.
Johnson, Andrew Beaumont, *s, a, w, sp,* Columbus, Ohio. S.B. (Ohio State U.) '14.
Jones, George Wilson, *s, a, w,* Chicago. S.B. '18.
Jones, Joseph Henry Noble, *s,* Chicago. A.B. (Oberlin C.) '10.
Kaufman, Irving, *a, w, sp,* Chicago. S.B. '19.
Keir, Floyd Earl, *s, a, w,* Elwood. S.B. '17.
Khanlian, Parsegh Benjamin, *a,* Armenia. S.B. (U. of Wisconsin) '18.
King, Ruth Lynne, *a, w, sp,* Salt Lake City, Utah. A.B. (U. of Utah) '18.
Krauss, Thomas Frederick, *w, sp,* Jonesboro. S.B. '19.
Landes, Herbert Ellis, *s, a, w,* Greencastle, Ind. A.B. (DePauw) '17; M.S. '19.
Larkin, William James, *a, w, sp,* Whitewater, Wis. S.B. (U. of Wisconsin) '19.
Lashkowitz, Abe Fae, *s, a, w,* Chicago. S.B. '19.
Lawson, Lawrence James, *s, a, w,* Petersburg. S.B. '19.
Lederer, Francis Loeffler, *w, sp,* Chicago. S.B. '19.
Leffert, Frank Benjamin, *s, a, w,* Canton, S.D. A.B. (U. of South Dakota) '19.
Leiter, Louis, *w, sp,* Chicago. S.B. '19; M.S. '20.

Lerner, Samuel, *s, a, w,* Chicago. S.B. '19.
Levy, Julius Gordon, *a, w,* Chicago. S.B. '19.
Lokke, Benjamin Richard, *s, a, w,* Wakonda, S.D. A.B. (U. of South Dakota) '19.
McCarthy, Earl Roach, *w, sp,* Spokane, Wash. S.B. '19.
McClanahan, Esther, *w, sp,* Columbus, Miss. S.B. (Mississippi State Woman's C.) '16.
McNally, William Duncan, *s, a,* Chicago. A.B. (U. of Michigan) '05.
MacNaughton, Leslie, *a, w,* Argyle, N.Y. S.B. (U. of Wisconsin) '15; M.S. (*ibid.*) '19.
McNeal, Alice, *a, w, sp,* Hinsdale. S.B. '18.
Malan, Daniel Bartholomeus, *s, a, sp,* Wellington, S. Africa. S.B. '19.
Mawdsley, Howard Leslie, *s, a, w,* Burt, Iowa. A.B. (U. of Iowa).
Melick, Clark Owen, *sp,* Chicago. S.B. (Ohio U.) '10.
Morrow, Alvin Reed, *s,* Pittsburgh, Pa. A.B. (Muskingum C.) '16; S.B. '19.
Morrow, John C. W., *s,* Blanchard, Iowa. A.B. (Tarkio C.) '10.
Moser, Rollin Henry, *s, a, w,* Aurora. S.B. '19.
Mullen, Bernard Parker, *s, a, w,* Sturgeon Bay, Wis. S.B. (U. of Wisconsin) '18.
Mulsow, Frederick William, *s,* Yates Center, Kan. A.B. (Baker U.) '13; Ph.D. '19.
Murray, Everett Elliott, *s, a,* Winfield, Kan. S.B. '18.
Nixon, Byron, *a, w, sp,* Farmland, Ind. S.B. (Indiana U.) ' 19.
Olmsted, Harry Carson, *w, sp,* Spokane, Wash. S.B. '19.
Palmer, Walter Lincoln, *s, a, w,* Castle Rock, Colo. S.B. '18; M.S. '19.
Parson, Lester Raymond, *s, a, w,* Grand Forks, N.D. A.B. (U. of North Dakota) '19.
Patton, Frank Martin, *a, w, sp,* Lead, S.D. A.B. (U. of South Dakota) '19.
Payne, Clarence Henry, *s, a, w, sp,* Chicago. A.B. (Fisk U.) '11.
Peterson, Melvin Bethuel, *s, a, w,* Hollandale, Wis. A.B. (St. Olaf C.) '17.
Potter, Wendell Abel, *s, a, w, sp,* Waterman. S.B. '19.
Remmen, Edmund Thorwald, *s, a, w,* Hettinger, N.D A.B. (U. of North Dakota) '19.
Rogers, Ezra Hazelton, *a, w, sp,* Hartford, Wis. S.B. (U. of Wisconsin) '19.
Rosene, Gordon Lester, *s, a, w,* Stromsberg, Neb. A.B. (Grand Island C.) '16.
Rudolph, Abraham Happy, *s, a, w,* Chicago. S.B. '18.
Safarik, Emile, *s, a, w, sp,* Chicago.
Schaller, Clarence Henry, *w, ap,* Mendota. S.B. '20.
Schick, Andrew Daniel, *s, a, w,* Chicago. S.B. '19.
Schroeder, William Frederic, *s, a, w,* Mountain Lake, Minn. A.B. (Carleton C.) '14; M.S. '19.
Shaffer, Earl William, *a, w, sp,* Bridgeport. S.B. (Illinois C.) '16.
Sheaff, Howard Martin, *w, sp,* Hastings, Neb. A.B. (U. of Nebraska) '10; Ph.D. '19.
Shelley, Harold J., *s, a, w,* Elmdale, Kan. A.B. (U. of Kansas) '18.
Sherman, Mandel, *s,* Chicago. S.B. '18.
Shimpa, Joseph Frank, *s, a, w,* Boscobel, Wis. S.B. (U. of Wisconsin) '19.
Siler, Charles Arthur, *s, w,* Chicago. A.B. (U. of Kansas) '07; M.D.(*ibid.*) '10.
Singer, Harry Albert, *a,* Chicago. S.B. '19.

Sluzynski, Leonard Stanley, *a, w, sp,* Chicago. S.B. '19.
Smiley, William Allen, *s, a, w,* Grinnell, Iowa. S.B. (Grinnell C.) '16.
Smith, Arthur Wilson, *s,* Richmond, Ind. S.B. '18.
Soper, Gail Raney, *s, a, w,* Hutchinson, Kan. A.B. (U. of Kansas) '18.
Spears, Clarence Wiley, *s, w,* Kewanee. S.B. (Dartmouth C.) '17.
Speier, Aaron Schloss, *s, a, w, sp,* Lincoln, Neb. S.B. '19.
Spoenemann, Walter Herman, *s, a,* Chicago. S.B. '19.
Stanley, Dean Field, *a, w, sp,* Urbana. S.B. '19.
Stappenbeck, Paul Henry, *w, sp,* Manhattan. S.B. '19.
Starr, Merritt Paul, *a, w, sp,* Winnetka. A.B. (Harvard U.) '16.
Stein, Jules Caesar, *a, w,* South Bend, Ind. Ph.B. '15.
Stephenson, Joseph Clark, *s, a, w, sp,* Sheridan, Ind. S.B., Ph.D. '07.
Stieglitz, Edward Julius, *a, w, sp,* Chicago. S.B. '18.; M.S. '19.
Swan, Alfred H., *s, a, w,* Chicago. S.B. '11.
Sweany, Henry Claris, *w, sp,* Eugene, Ore.
Tucker, Beatrice Edna, *s, w, a, sp,* Peoria. S.B. '18.
Val Dez, Frank Carl, *w, sp,* San Angelo, Tex. S.B. '19.
Vivian, Robert Stansmore, *s, a, w,* Mineral Point, Wis. S.B. (U. of Wisconsin) '19.
Wallace, Hawthorn Collins, *w, sp,* Bellefontaine, Ohio. A.B. (Muskingum C.) '14.
Ware, Julian Vivian, *a,* Chicago. S.B. '17.
Weber, Carl Joseph, *s, a, w,* Hartland, Wis. S.B. (U. of Wisconsin) '19.
Weiland, Arthur Herman, *a, w, sp,* Ashton, S.D. S.B. (Carleton C.) '17; M.S. '19.
Weller, Charles Grafton, *s, a, w,* Fond du Lac, Wis. S.B. (U. of Wisconsin) '17.
Wheeler, Daniel Wilbur, *s, a, w,* Watseka. S.B. (Knox C.) '15.
White, Cleveland J., *a, w, sp,* Shullsburg, Wis. A.B. (U. of Wisconsin) '18.
Wimmer, Robert Morris, *s,* Logansport, Ind. S.B. '19.
Winans, Leslie Haines, *s, a, w,* Toulon. S.B. (Denison U.) '17.
Winters, Matthew, *s, a, w,* Poseyville, Ind. A.B., A.M. (U. of Indiana) '17.
Woolfan, Emmanuel Bertrand, *s, a, w, sp,* Hibbing, Minn. S.B. '18.
Yancey, Charles Corbin, *s, a, w,* Chicago. S.B. '19.
Yantema, Stuart, *a, w, sp,* Hudsonville, Mich. S.B. '19.
Yoder, Orus Ray, *s, a, w,* Goshen, Ind. A.B. (Goshen C.) '16.
Zaus, Earl Alfred, *sp,* Youngstown, Ohio. S.B. '19.

MEN—161 WOMEN—8 TOTAL—169

SPECIAL STUDENTS TAKING CLINICAL COURSES

Cary, Eben J., *s,* Omaha, Neb.
Christeson, E. L., *s,* Dixon, Mo.
Dona, Pedro J., *s, sp,* Manasua, Vic., C.A.
Goldenson, Max J., *s,* St. Louis, Mo.
Hendrickson, Floyd, *s,* Chicago.
Jenkins, J. S., *s,* Chicago.
Kelly, Chalice M., *w, sp,* Chicago.
Lipp, M.J., *s,* Omaha, Neb.

Miller, Robert E., *s*, Charleston, S.C.
Morse, Roy A., *sp*, Chicago.
Pennington, Alma S., *a*, *w*, San Francisco, Cal.
Pozer, Richard B., *sp*, Winnipeg, Can.
Schumann, E., *s*, Chicago.
Smith, Edwin J., *sp*, Chicago.
Tharp, H. M., *s*, Reasnor, Iowa.
Van Buskirk, L. H., *s*, Columbus, Ohio.
White, E. H., *s*, Delaware, Ky.

MEN—16 WOMEN—1 TOTAL—17

SUMMARY OF ATTENDANCE FOR THE YEAR 1920–21

	Men	Women	Total
Freshmen and Sophomores	275	56	331
Juniors	149	19	168
Seniors	161	8	169
Total, less duplicates	503	72	575
Special students taking medical courses in the fundamental branches	217	54	271
Practitioners taking clinical courses	16	1	17
Total	736	127	863